

REPORT  
ON THE  
HEALTH OF THE BOROUGH  
OF  
BIRMINGHAM,  
FOR THE YEAR 1878,  
ALSO,  
ON THE PROCEEDINGS TAKEN UNDER THE ACT FOR THE  
PREVENTION OF ADULTERATION  
OF ARTICLES OF FOOD AND DRINK,

BY  
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and  
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MEDICAL OFFICER OF HEALTH'S DEPARTMENT,

PUBLIC OFFICE, BIRMINGHAM,

May 3rd, 1879.

TO THE HEALTH COMMITTEE.

MR. CHAIRMAN AND GENTLEMEN,

I have the honour to present my Report for the year ending December 28th, 1878.

The population of the Borough, estimated by the Registrar-General to the middle of the year upon the basis of the last census in 1871, was 383,117, spread over an area of 8,400 acres, and occupying about 73,000 houses, about 6,000 houses in addition being void. The average number of persons per acre is 45·6, but of course the population is not spread equally over the whole area.

The density of a population has a marked influence on mortality, as a rule those towns which are most densely populated suffer the heaviest mortality, and the same may be said of parts of towns. Birmingham is very favourably circumstanced in regard to the area which it occupies, comparing advantageously with some of the other principal towns of the kingdom. The following table shows the population, number of persons per acre, and mortality in certain towns of the kingdom :—

		Estimated Population, 1878.	No. of Persons per Acre.	Death-rate.
London	...	3,577,304	47·5	23·5
Norwich	...	84,620	11·3	24·6
<b>Birmingham</b>	...	<b>383,117</b>	<b>45·6</b>	<b>25·2</b>
Liverpool	...	532,681	102·2	29·4
Manchester	...	360,514	84·0	27·9
Leeds	...	304,948	14·1	23·8
Newcastle	...	144,570	26·9	23·8
Glasgow	...	566,940	94·0	24·9
Dublin	...	314,666	31·3	29·6

Although density of population exerts so marked an effect on public health, its influence may be interfered with, and even eclipsed, by bad conditions of another kind; a striking example of this fact is furnished by the city of Dublin, where, with a population numbering only 31·3 persons per acre, the mortality is excessively high.

The number of

BIRTHS

registered during the year is 15,964, against 16,001 in 1877 and 15,816 in 1876, consisting of 8,155 males, and 7,809 females. The numbers for each quarter of the years 1873 to 1878 inclusive are as follows :—

	1873.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	TOTAL.
Total	...	3,741	3,564	3,378	3,814	14,497
Males	...	1,892	1,783	1,715	1,950	7,340
Females	...	1,849	1,781	1,663	1,864	7,157

1874.											
Total	..	...	3,814	...	3,871	...	3,493	...	3,710	...	14,888
Males	...	..	1,953	...	1,961	...	1,753	...	1,853	...	7,520
Females	...	...	1,861	...	1,910	...	1,740	...	1,857	...	7,368
1875.											
Total	...	...	3,787	...	3,737	...	3,581	...	3,757	...	14,862
Males	...	..	1,929	...	1,884	...	1,815	...	1,904	..	7,532
Females	...	...	1,857	...	1,853	...	1,766	...	1,853	...	7,329
Sexless	...	...	1	...	0	...	0	...	0	...	1
1876.											
Total	...	...	4,140	...	3,924	...	3,803	...	3,949	...	15,816
Males	...	...	2,045	...	1,996	...	1,959	...	2,028	...	8,028
Females	...	...	2,095	...	1,928	...	1,844	...	1,921	...	7,788
1877.											
Total	...	...	4,296	..	4,009	...	3,769	...	3,927	...	16,001
Males	...	...	2,139	...	2,015	...	1,878	...	2,037	...	8,069
Females	...	...	2,157	...	1,994	...	1,891	...	1,890	...	7,932
1878.											
Total	...	...	4,139	...	4,096	...	3,849	...	3,880	...	15,964
Males	...	...	2,160	...	2,051	...	1,962	...	1,982	...	8,155
Females	...	...	1,979	...	2,045	...	1,887	...	1,898	...	7,809

The Birth-rate for the year is 41·67 per 1,000 persons living, against 42·39 last year, and 39·38, the average rate in the 10 years 1868—77, and though lower than last year, is still higher than in any one of the preceding ten years, except 1876 and 1877, and is exceeded this year by only two of the twenty-three large towns of the United Kingdom, viz., Salford and Hull.

In the subjoined statement will be found the Birth-rate per 1,000 of the population in the undermentioned large towns for the year 1878 :—

London.	Norwich.	Birmingham.	Liverpool.	Manchester.	Leeds.	Newcastle.	Average of large Towns.
36·2	33·6	41·7	38·8	38·2	39·2	38·1	36·8

#### DEATHS.

The Deaths registered during the year amount to 9,662, against 9,038 last year, and 8,330 in 1876. The Death-rate per 1,000 persons living is 25·2, as compared with rates of 24·8, 26·8, 26·3, 22·4, and 23·9, in the years 1873 to 1877 respectively. This rise is the result of the epidemic of Scarlet Fever, which raged in the Borough during the whole of the year, but more particularly, as is usual, in the 4th Quarter, and of the prolonged severity of the weather in the last two months of the year, when deaths from diseases of the Respiratory Organs were more than ordinarily numerous, as well as of a slightly higher Death-rate from Diarrhoea. Although the Death-rate was higher in 1878 than in the two previous years, it was not so high as in 1874 and 1875; in the former year both Scarlet Fever at its acme and much Small-pox existed, while in 1875 Diarrhoea was exceptionally fatal.

The death-rate given above does not exactly agree with that stated by the Registrar General, who makes it 25·5 per 1,000. This difference is explained by a footnote in the Registrar General's Annual Summary for 1878 to the effect that "the deaths in Birmingham . . . include paupers belonging to the Borough who died in Workhouses situated outside the municipal boundaries."

The Workhouses referred to are those of Erdington and King's Norton; the former receives paupers from that part of the parish of Aston situate in the Borough of Birmingham, and the latter receives them from that part of the parish of Edgbaston which constitutes a portion of the Borough.

But while these deaths are strictly set down to the account of the Borough, there is no allowance made in the opposite direction for the deaths of persons in the numerous medical and eleemosynary institutions of the Borough who come from places outside its boundaries, so that our death-rate, *ceteris paribus*, appears considerably higher than it actually is. I have not endeavoured as yet



to rectify the error, because from my experience of procuring returns I fear it would be very difficult, if not impossible, to obtain the necessary statistics, but I intend to enquire into the matter.

The Table below affords comparative information for the last 14 years upon estimated population, actual numbers of Births and Deaths and Birth-and Death-rates :—

Year.	Estimated Population in the middle of each Year.	Births.	Deaths.	Annual Rate to 1,000 living.	
				Births.	Deaths.
1865	The Estimated Population in these years is not to be relied on.	12,699	8,014	38·87	24·5
1866		12,877	8,042	38·48	24·0
1867		13,029	8,318	38·01	25·6
1868		12,992	8,548	36·31	25·9
1869		12,779	7,737	35·53	23·1
1870		12,922	7,805	35·00	23·0
1871	344,980	13,443	8,594	39·00	24·9
1872	350,164	14,123	8,048	40·50	23·1
1873	355,540	14,497	8,990	40·78	24·8
1874	360,892	14,888	9,665	41·25	26·8
1875	366,325	14,862	9,668	40·57	26·3
1876	371,839	15,816	8,330	42·53	22·4
1877	377,436	16,001	9,038	42·39	23·9
1878	383,117	15,964	9,662	41·67	25·2

In the following statement is given the Death-rate per 1,000 of the population of Birmingham and the principal large towns for the year 1878, and the five preceding years :—

#### DEATH-RATE PER 1,000 PERSONS LIVING.

	Average of 20 large English Towns.		London.	Norwich.	Birm.	Liverpool.	Manchstr.	Leeds.	Newcastle.
1878	24·4	...	23·5	24·6	25·2	29·4	27·9	23·8	23·8
1877	22·8	...	21·9	21·0	23·9	26·5	27·4	22·3	22·4
1876	23·6	...	22·3	21·9	22·4	27·6	29·2	25·1	22·8
1875	25·4	...	23·7	24·5	26·3	27·5	29·9	26·4	26·1
1874	25·4	...	22·5	23·5	26·8	32·0	30·4	28·7	29·2
1873	24·4	...	22·5	21·5	24·8	25·9	30·1	27·6	30·1

In the subjoined Table will be found the total number of Deaths, the number of Deaths in each sex, and the Death-rate for each quarter of the year, together with the totals for each of the four preceding years :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total 1878.	Total 1877.	Total 1876.	Total 1875.	Total 1874.
Total ...	2,592	2,045	2,431	2,594	9,662	9,038	8,330	9,668	9,665
Males ...	1,340	1,105	1,277	1,364	5,086	4,745	4,390	5,044	4,993
Females ...	1,252	940	1,153	1,229	4,574	4,292	3,939	4,623	4,672
Sex not known	—	—	1	1	2	1	1	1	—
Death-rate ...	27·06	21·35	25·90	27·08	25·2	23·95	22·40	26·34	26·78

The division of the Deaths among the nine Registration Sub-Districts is shown in the statement below :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total 1878.	Total 1877.	Total 1876.	Total 1875.	Death-rate 1878.
Ladywood ...	297	250	296	311	1,154	950	890	1,090	23·3
St. Thomas ...	237	205	221	246	909	880	805	932	21·7
St. Martin ...	288	199	279	304	1,070	996	1,028	1,084	24·6
St. Mary ...	97	74	87	100	358	352	347	394	23·5
St. George ...	443	311	354	357	1,465	1,383	1,286	1,568	27·5
All Saints' ...	404	380	365	454	1,603	1,571	1,376	1,370	37·4
Deritend ...	396	314	427	415	1,552	1,437	1,260	1,365	24·3
Duddeston ..	349	247	341	323	1,260	1,239	1,091	1,292	23·9
Edgbaston ..	81	65	61	84	291	230	247	273	13·6

If we exclude all the Institutions in the Borough, except the Workhouse, the Death-rate last year is 23·6 ; excluding the Workhouse also, it is 22·2 per 1,000 per annum.

The high Death-rates in St. George's and All Saints' Sub-Districts are due to the existence in the former of the General Hospital, and in the latter of the Gaol, Asylum, Borough Hospital, and Workhouse. The death-rate of St. George's Registration Sub-District, excluding the deaths recorded in the General Hospital, would be 23·7 instead of 27·5, as it actually now appears. In like manner, if the deaths in the Queen's Hospital, situated in St. Thomas' district be excluded, the number of deaths in that district is reduced from 909 to 781, and the death-rate from 21·7 to 18·7.

By eliminating the deaths that have taken place in the Children's Hospital the death-rate in Ladywood Registration Sub-District is brought down to 21·1, and by discarding those registered as dying in the Workhouse, Borough Hospital, Lunatic Asylum and Gaol, the death-rate of All Saints', instead of appearing as 37·4, stands at 21·3.

In the subjoined Table will be found the number of deaths in each of the 16 Wards of the Borough for each quarter of the year :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Rotton Park (W., B.H.) ...	274	281	259	323	1,137
All Saints' (L.) ...	185	168	182	202	737
Ladywood (H.) ...	159	133	161	158	611
St. Paul ...	123	80	102	129	434
St. George ...	176	120	160	147	603
St. Stephen ...	161	103	145	116	525
St. Mary (H.) ...	168	164	176	192	700
St. Bartholomew ...	182	112	184	196	674
Market Hall ...	120	84	88	99	391
St. Thomas (H.) ...	174	136	146	162	618
St. Martin ...	139	118	136	144	537
Edgbaston ...	93	72	73	97	335
Deritend ...	167	112	150	161	590
Bordesley ...	169	159	179	190	697
Duddeston ...	132	97	119	111	459
Neehells ...	170	106	171	167	614
Total ...	2,592	2,045	2,431	2,594	9,662

In the following statement is given the number of deaths at various ætal periods for each of the quarters of 1878, and the totals for that and the two preceding years :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total 1878.	Total 1877.	Total 1876.
Under 1 year of age ...	714	546	902	606	2,768	2,629	2,538
Between 1 and 5 years of age	606	440	571	645	2,262	1,832	1,344
" 5 and 10 "	110	92	135	185	522	278	290
" 10 and 20 "	72	85	79	86	322	292	304
" 20 and 40 "	251	249	220	255	975	1,054	1,020
" 40 and 60 "	393	293	262	361	1,309	1,432	1,393
" 60 and 80 "	371	301	219	394	1,285	1,321	1,245
At 80 years and upwards	75	39	43	62	219	200	196

By comparing the figures for 1878 and 1877, it will be found that there is an increase in the number of deaths at each of the ætal periods up to 20 years, and at that above 80 years of age, while at the ætal periods between 20 and 80 years

of age the number has diminished. At the ætal periods below 20 years of age, the rise in the mortality is entirely due to the excessive fatality of Searlet Fever; that at 80 years of age and upwards is to be ascribed to a slightly larger number of deaths from Local Diseases generally at that age.

The average age at death for each Quarter of the Year, and for the whole year, is given below, and compared with the corresponding data of the previous year.

First Quarter	...	24 years 2 months.	..	27 years 7 months.
Second "	...	24 " 0 "	...	25 " 4 "
Third "	...	17 " 8 "	...	20 " 10 "
Fourth "	...	23 " 3 "	..	22 " 1 "
Whole Year	...	22 " 2 "	...	24 " 2 "

The death age for the year 1877 was two years higher than in 1878. The principal cause of the lower age in the latter year is the increased mortality from Searlet Fever and Diarrhœa among young children.

On looking at the death age for the several Quarters of the year, it will be observed that it was lowest in the third quarter, the explanation of this fact is that in that part of the year the high mortality from Diarrhœa, combined with a high mortality from Searlet Fever carried off a great number of the infant population; in the fourth Quarter, although Searlatina was more fatal than at any other time, and a still low death age might be expected, the death age rose to nearly the same figure as in the first two quarters, and above that of the corresponding quarter of the previous year, this fact receives its explanation from the circumstance that there was a considerable mortality at the end of the quarter amongst persons of advanced age, from chest and other diseases.

Appended to the Report is a Chart showing the death-rate and death-age at the various weekly periods throughout the year.

### INFANT MORTALITY.

The following are the per-centages of deaths under one year of age on the total number of births registered in the principal large English towns during the last six years :—

	Average of 20 large English Towns.			London.	Norwich.	Birm.	Liverpool.	Manchstr.	Leeds.	Newcastle.
1878	...	17·2	...	16·4	21·1	17·0	19·3	17·5	18·8	16·1
1877	...	15·4	...	14·6	15·4	16·4	18·8	16·1	16·5	15·1
1876	...	16·7	...	15·7	17·8	16·0	20·8	18·0	18·1	16·7
1875	...	17·6	..	16·2	21·0	19·6	21·0	18·4	19·7	18·7
1874	...	17·5	...	15·6	17·8	17·8	23·3	19·7	19·9	19·8
1873	...	17·4	...	16·0	16·1	18·1	21·3	20·0	19·4	18·7

The slight increase in the figures for 1878 is due to the diminished birth-rate for the same year.

The per-centage of deaths under one year of age on total deaths during the last six years in the principal large English towns is given in the subjoined statement :—

	Average of 20 large English Towns.			London.	Norwich.	Birm.	Liverpool.	Manchstr.	Leeds.	Newcastle.
1878	...	26·5	...	25·2	28·7	28·6	25·5	24·0	31·0	25·8
1877	...	25·5	..	24·1	24·7	29·1	27·5	22·6	29·7	26·6
1876	...	26·9	...	25·7	27·0	30·5	29·6	24·5	29·9	30·4
1875	...	26·2	...	24·4	28·0	30·6	29·4	24·3	30·1	29·1
1874	...	26·4	...	24·9	24·0	27·8	28·2	25·4	28·8	27·5
1873	...	27·0	...	25·2	24·5	29·2	30·4	25·7	28·0	27·1



The diminution in the per-centage of deaths under one year on the total deaths is owing to the generally higher mortality at ages above one year.

### ZYMOTIC DISEASES.

From the seven principal Zymotic Diseases 2,421 deaths, or 25·1 per cent. of the total number of deaths from all causes, have been registered. In 1877 the total number of deaths from this class of diseases was 1,576, or 845 less than that for the present year; while the average number for the five years, 1873—77, was 1,950, or 471 less than that for the year under notice. The Zymotic death-rate is this year 6·3 per 1,000 persons living per annum, against rates of 5·6, 7·3, 5·9, 3·6, and 4·2 in the years 1873, 4, 5, 6, and 7 respectively, as shown in the table below, from which it is also seen that the Zymotic death-rate is higher than in any year of the last six, except 1874, when the last epidemic of Scarlatina reached its height, and existed in conjunction with Small-Pox :—

	Average of 20 large English Towns.	London.	Norwich.	Birm.	Liverpool.	Manchestr.	Leeds.	Newcastle.
1878 ...	4·4	4·1	3·6	<b>6·3</b>	6·1	4·0	4·5	4·6
1877 ...	3·5	3·5	2·9	<b>4·2</b>	4·7	4·2	2·8	2·5
1876 ...	4·1	3·6	2·9	<b>3·6</b>	6·1	5·2	4·5	2·5
1875 ...	4·4	3·9	4·3	<b>5·9</b>	4·5	4·6	4·6	3·6
1874 ...	4·5	3·3	2·0	<b>7·3</b>	8·4	5·5	6·3	5·5
1873 ...	3·9	3·3	2·2	<b>5·6</b>	4·0	5·9	5·6	6·8

In the subjoined Table is given the percentage of Zymotic deaths on total deaths during the same period in the same principal towns :—

	Average of 20 large English Towns.	London.	Norwich.	Birm.	Liverpool.	Manchestr.	Leeds.	Newcastle.
1878 ..	18·2	17·6	14·5	<b>25·1</b>	21·9	14·3	19·0	19·2
1877 ...	15·4	16·0	13·8	<b>17·4</b>	17·8	15·4	12·6	10·3
1876 ...	17·3	16·1	13·2	<b>16·0</b>	22·1	17·8	17·8	11·0
1875 ..	17·5	16·5	17·6	<b>22·2</b>	16·4	15·5	17·4	13·8
1874 ...	18·0	14·9	9·0	<b>27·4</b>	25·2	19·7	22·0	18·6
1873 ...	16·3	14·9	10·1	<b>23·8</b>	19·1	19·7	22·9	22·0

*SCARLET FEVER* has been this year the most fatal of the Zymotics, having occasioned as many as 995 deaths, against 237 in 1877, and 406 the annual average in the five years 1873-1877. The mortality from this cause during the present year (1878) has been 2·6 per 1,000; in 1874 it was a little over 2 per 1,000. It has been widely scattered throughout the Borough, but has been, in relation to population, most fatal in St. Martin and Ladywood Sub-Districts, more particularly the latter. It is the habit of this disease, which is a constant guest with us, to reach the height of its epidemic wave about every five years. Such a culminating period was 1874, and in 1878 it again occurred. This regularity of appearance is no doubt due to the fact that the disease is one principally confined to children between two and seven years of age, and that the epidemic having assailed nearly every susceptible child declines from sheer want of subjects of attack, and so diminishes for a time to gradually increase and attain its maximum of development again in the quinquennial period referred to.

It will be observed that not only is the actual number of deaths from this disease greater in 1878 than in 1874, which might be accounted for by the increase of population, but it is also relatively greater to the number of persons living, the death rate being as much as 30 per cent. higher in 1878 than in 1874. The question naturally suggests itself what is the cause of this increase? It can hardly be due to worse sanitary conditions, for the last four or five years have been characterised by remarkable activity in the amelioration of the state of the town; in my opinion it is the result of that extension of the educational movement which it is so desirable to advance, but which like all other good



measures is handicapped with certain drawbacks and disadvantages. The association of children in much larger numbers than formerly in private, national, and board schools naturally favours the spread of a disease which is as intensely infectious, perhaps, as any with which we are acquainted, and the ignorance or carelessness of parents in allowing children affected to mix with other children in all stages of the disease promote the extension of it to a degree which is most blameable as well as alarming, because by care in isolating cases at an early period in their history there is no doubt that the disease might be restricted within comparatively narrow limits.

Although the greater prevalence of certain Zymotic diseases of children is as a fact traceable to the circumstance that a greater number of children are brought together in the present time than formerly, yet this in no wise reflects on the means employed for the diffusion of education. The Schools, the new ones certainly, and particularly the Board Schools, are well adapted for their purpose, and no blame is therefore to be placed on either them or their management, which latter is also excellent. As the periodical nature of Scarlet Fever epidemics is now well-known, the conditions of its propagation or arrest are understood, and the advantages of Hospital isolation and treatment are fast becoming recognised, we clearly have the means largely at command of preparing for and providing against such future epidemics. The great want is the willingness of parents and guardians of children to avail themselves of the benefits to be derived from the utilisation of the means of prevention and protection placed by the Sanitary Authority and certain benevolent institutions at their disposal.

*DIARRHŒA* has proved fatal in 680 instances; last year the deaths from this cause numbered 457, while the average number for the five years 1872-6 was 703. These facts show that while the mortality from Diarrhœa is this year greater than it was during 1877, owing probably to the considerably higher temperature of the third quarter of the year than existed in 1877, it has not been so high as the average of the five years 1872-6. The largest number of deaths from this cause has taken place in the Registration Sub-District of St. George. Sixty-nine per cent. of the deaths occurred in infants under one year of age, and 90·6 per cent. in children under five years of age.

The following are the Diarrhœa death-rates in certain of the large towns for 1878 :—

London.	Norwich.	Birmingham.	Manchester.	Liverpool.	Leeds.	Newcastle.
1·0	1·5	1·8	1·8	1·4	2·0	1·6

*WHOOPIING COUGH* comes next in order of fatality, with 455 deaths, as compared with 369 deaths in 1877, 189 in 1876, and 438 in 1875. This disease has been most prevalent in St. George's Registration Sub-District, which is the most populous of the whole nine.

*FEVER*, of which 2 are certified from Typhus, 119 from Typhoid, and 26 from Simple Continued Fever, has resulted in 147 deaths, against 144 in 1877, 147 in 1876, and 204 in 1875. Although there are 3 cases of Fever more than in 1877, terminating fatally, the increase of population leaves the Fever death-rate unchanged.

The death-rates from Fever in Birmingham and in 20 large English towns since 1870, are as under :—

				Birm.		20 large towns.
				per 1,000	per annum.	
1870	...	...	...	·63		·90
1871	...	...	...	·53	" "	·78
1872	...	...	...	·54	" "	·60
1873	...	...	...	·57	" "	·59
1874	...	...	...	·56	" "	·58
1875	...	...	...	·56	" "	·52
1876	...	...	...	·40	" "	·45
1877	...	...	...	·38	" "	·42
1878	...	...	...	·38	" "	·42

The steady diminution of Typhoid Fever during the last few years has this year apparently ceased, the proportion of deaths returned as resulting from that disease being exactly the same as last year. There is, however, good reason to believe that this arrest in the decrease of Typhoid fatality is apparent rather than real. It is reasonable to expect that the improvements of water-supply, drainage, and house construction, which have been so largely effected, and which stand confessedly in such close relation to the prevention of Typhoid, should be followed by a lower mortality, and, for my part, I have faith in the view that it is so. In the absence of such a confidence, the prospect would be anything but encouraging to the sanitarian. How, then, is the anomaly to be explained? My own observation leads me to the conclusion that much carelessness is exhibited in both diagnosing and naming several forms of disease. I have reason to know that cases of Scarlet Fever first seen by the attendant towards their termination, and after all the more characteristic signs and symptoms had disappeared, are hastily and thoughtlessly set down as Typhoid; that cases of simple fever, occurring in feeble subjects, and therefore characterised by a low type, are at once, without any careful examination for, or any discovery of the distinguishing signs of true Typhoid, designated and certified as Typhoid. On putting the matter to medical men, in some cases where, from the unexceptionably satisfactory state of the premises, there was reason to believe the cause of death could not be Typhoid, they have frankly admitted that by Typhoid they did not mean true Typhoid, but simply *low* fever, which, however, is not Typhoid at all. But the abuse of nomenclature does not stop here.

A case that occurred recently was certified and registered as Typhus. I visited the premises with a view to discover the conditions which are so well understood to be associated with this dreadfully infectious and fatal disease but found them all absent. Convinced that Typhus, which is so rare a disease in Birmingham, could not be the cause of death, I waited upon the medical man who candidly, in reply to my questions, said he did not mean Typhus, nor yet Typhoid, but simply *low* Fever, a fever in fact *low like* Typhoid or Typhus. Of course it is quite time, now that the distinctions between different kinds of fever are so well made out, that this vitiation of the registration of disease returns by means of loose nomenclature should cease. They are a reproach to professional prestige, and are injurious to the excellent object of Disease Registration, and I hold that although no fee rewards the trouble of giving medical certificates of the cause of death, yet as the duty is imposed on the medical attendant, there is no excuse for such certificates being made out incorrectly; at the same time I am prepared to admit that it appears unfair and unreasonable to expect professional men to give their time in rendering service to the State without remuneration.

Under all the circumstances, it seems justifiable to conclude that if cases were properly certified, the mortality from Typhoid, instead of appearing stationary, would exhibit a gradual decrease, and this view is strengthened by the consideration that we have no explosions or habitats of Typhoid, but that the cases are pretty generally distributed.

*DIPHTHERIA* is debited with a considerably larger number of deaths, 83 having been certified as terminating fatally, as compared with 52 deaths in 1877 and 58 deaths in 1876. This large increase is, however, probably rather apparent than real. In bearing in mind the severe epidemic of Scarlatina which has existed during the year, and the difficulty of distinguishing it from Diphtheria in some



cases where the eruption is slight, and therefore unobserved, or where, perhaps, it is altogether absent, we may reasonably conclude that many such obscure cases of Scarlatina have been set down as Diphtheria. I am strengthened in this view by the fact that at about the same time, and in the same house, cases have been, to my knowledge, described one as Scarlatina and another as Diphtheria; and although it is not impossible that the two diseases should exist in the same house at the same time, it is more than probable that all the cases were of the same kind, the more particularly as the peculiar conditions likely to generate Diphtheria have been proved by careful examination to be absent. Taking this view of the question, it is very likely that the actual cases of Diphtheria this year are little, if at all, proportionately greater than in previous years.

*MEASLES*, on the contrary, has largely diminished in its prevalence and fatality, it being accountable for only 54 deaths in 1878, against 309 deaths in 1877, 87 deaths in 1876, and 141 in 1875, having been less fatal, indeed, than in any year since 1872.

*SMALL-POX*.—Twenty-seven cases have come under my knowledge during the year, while the deaths were only five. The number of cases reported last year was 50, eight of which terminated fatally.

DEATHS AND DEATH-RATE FROM SMALL-POX PER 100,000  
OF THE POPULATION.

Town.	Population.	Deaths from		Rate per 100,000.			
		Small-pox in the year 1878.	1878.	1877.	1876.	1875.	
London ... ..	3,577,304	1,416	39·6	72·0	21·1	2·2	
Portsmouth ... ..	129,461	0	0·0	0·8	0·8	0·0	
Norwich ... ..	84,620	2	2·4	0·0	2·4	0·0	
Bristol ... ..	206,419	0	0·0	0·0	17·0	35·7	
Wolverhampton ... ..	74,240	0	0·0	0·0	0·0	0·0	
<b>Birmingham</b> ... ..	<b>383,117</b>	<b>5</b>	<b>1·3</b>	<b>2·1</b>	<b>0·0</b>	<b>47·5</b>	
Leicester ... ..	121,473	0	0·0	0·9	0·0	0·0	
Nottingham ... ..	165,276	0	0·0	0·0	0·0	0·0	
Liverpool ... ..	532,681	3	0·6	56·7	68·4	5·6	
Manchester... ..	360,514	1	0·3	13·3	55·9	4·8	
Salford ... ..	170,251	1	0·6	57·1	250·7	23·8	
Oldham ... ..	107,366	1	0·9	26·7	7·9	3·4	
Bradford ... ..	185,088	1	0·6	2·2	0·6	1·8	
Leeds ... ..	304,948	0	0·0	1·0	1·4	7·0	
Sheffield ... ..	289,537	1	0·3	0·7	0·3	0·0	
Hull ... ..	143,139	1	0·7	0·7	0·0	1·5	
Sunderland... ..	112,459	1	0·9	0·0	0·0	0·0	
Newcastle-on-Tyne	144,570	0	0·0	0·7	0·7	0·0	
In 18 Towns ... ..	7,098,654	1,433	20·2	42·8	24·9	6·4	

The following statement gives the number of cases and deaths from **Small-Pox** in each quarter since the end of 1871 :—



DATE.				Cases.	Deaths.
1871.					
November 18th to end of year	...	...	...	359	43
Total	...	...	...	359	43
1872.					
1st Quarter	...	...	...	798	96
2nd "	...	...	...	632	92
3rd "	...	...	...	355	67
4th "	...	...	...	192	44
Total	...	...	...	1,977	299
1873.					
1st Quarter	...	...	...	171	29
2nd "	...	...	...	246	37
3rd "	...	...	...	124	18
4th "	...	...	...	253	38
Total	...	...	...	794	122
1874.					
1st Quarter	...	...	...	757	123
2nd "	...	...	...	1,303	196
3rd "	...	...	...	1,059	165
4th "	...	...	...	672	153
Total	...	...	...	3,791	637
1875.					
1st Quarter	...	...	...	366	85
2nd "	...	...	...	347	72
3rd "	...	...	...	95	14
4th "	...	...	...	16	2
Total	...	...	...	824	173
1876.					
1st Quarter	...	...	...	2	0
2nd "	...	...	...	2	0
3rd "	...	...	...	2	0
4th "	...	...	...	5	0
Total	...	...	...	11	0
1877.					
1st Quarter	...	...	...	7	1
2nd "	...	...	...	20	3
3rd "	...	...	...	20	3
4th "	...	...	...	3	1
Total	...	...	...	50	8
1878.					
1st Quarter	...	...	...	3	0
2nd "	...	...	...	4	0
3rd "	...	...	...	10	2
4th "	...	...	...	10	3
Total	...	...	...	27	5
Grand Total	...	...	...	7,833	1,287

The total mortality from

### CONSTITUTIONAL DISEASES

has slightly increased on that in 1877. The deaths from Cancer have decreased in number, while those from Phthisis (Consumption), Tabes Mesenterica and Dropsy have each increased. With regard to

### LOCAL DISEASES,

those of the Nervous System have not materially changed, the number of deaths from Paralysis and Epilepsy having diminished, while those from Apoplexy and Brain Disease have increased a little. The deaths referred to Heart Disease show a marked diminution on the number in the previous year, while those from diseases of the Respiratory Organs have remained nearly stationary, the deaths from Bronchitis showing a fall and those from Pneumonia a rather considerable rise on the number in 1877. The deaths classed under diseases of the Digestive Organs show

generally a decrease on last year, which is more particularly noticable in the case of Liver Disease. The number of persons certified as dying from diseases of the Urinary Organs has undergone no material alteration, and the same remark applies to the deaths from diseases of the Organs of Generation and Locomotion, and from those of the Integumentary System.

With reference to

### DEVELOPMENTAL DISEASES

it may be noted that the number of deaths from both Premature Birth and Teething has considerably augmented, while the numbers from Old Age and Debility are smaller than those in the previous year.

Childbirth and Puerperal Fever (Metria) are certified as causing 49 deaths as compared with 59, 52, and 75 in the years 1877, 1876, and 1875 respectively, so that the deaths from these causes equal an annual rate of 3.1 per 1,000 Births registered during the year.

### DISEASE MAPS,

illustrating the distribution of Scarlatina, Measles, and Typhoid, will be found appended; one object of such maps is to present to the eye the area of distribution of these diseases, by which a much better notion is formed than could possibly be conveyed by a verbal description, another is to indicate those parts of the town which are most subject to invasions of Zymotic disease, and so to indicate the direction in which to make inquiries into the possible local causes of and the conditions favourable to the existence of this class of preventable disease.

On looking at the *SCARLATINA* Map, it is at once observable that the disease existed pretty equally over the whole of the Borough, excepting in the centre of the town, the extreme outlying portions of the town and Edgbaston Ward. The explanation of these facts seems to be that in such localities the population is very sparse, and more particularly, children who form the principal subjects of attack, are few in number there. In Edgbaston Ward another condition comes into play, the combination of greater prosperity and intelligence, care and cleanliness, in consequence of which the disease has less opportunity of successfully invading that portion of the town, and in cases where it obtains a footing, curative and preventive measures are more completely employed, so that the cases as a rule terminate in recovery, and the spread of the disease is checked.

I find that in the last epidemic of Scarlet Fever in 1874 the same distribution obtained.

From a consideration of the incidence of the disease during the last six years, the conclusion is forced upon the mind that wherever children are found in large numbers, irrespective of locality, the disease is most prevalent. In one year some parts of the town are more severely visited, in another year other parts suffer most; but all parts, with the exceptions already made, are attacked in turn, those, however, suffering most—like St. George's Ward—where the population is most dense. Local conditions then, excepting density, seem to have little effect on the prevalence of Scarlatina; the real cause of the spread and general distribution being the communication of infection directly from one individual to another.

The *MEASLES* map shows that the 54 deaths of the year are distributed in much the same manner as those from Scarlatina, and that the disease does not appear to have displayed any partiality for particular localities, with the exceptions and for the reasons before named.

The *TYPHOID* map illustrates the freedom of the centre of the town and Edgbaston Ward from the disease, and a pretty general distribution over the other parts of the town. During the past six years the disease has been most prevalent in the Wards of St. Mary, St. George, and Duddleston, all of which are largely inhabited by a poor and dense population.

### VACCINATION.

During the past year 8,635 persons have been vaccinated by the public Vaccinators. This number is exclusive of the cases treated by private practitioners. It is desirable, in order to judge of the amount of protection secured against Small-pox, to know how many of all the children born are submitted to the operation of Vaccination; but as it is impossible to give this information for the whole of the year ending December 31st, owing to the Act applying only to children three months old, and to other circumstances, I have given in Table XVI. a summary of the last returns made to the Local Government Board for the year ending 30th June, 1878, by Mr. Wilcox, Vaccination Officer for the parish of Birmingham, Mr. Towler, Vaccination Officer for the parish of Aston, and Mr. E. Doeker, Vaccination Officer for the parish of Edgbaston, to whose courtesy and kindness I am indebted for the Statistics.

From the Table it will be found that out of 9,763 births registered in the parish of Birmingham, 680 or 6·9 per cent. apparently escaped Vaccination, or are unaccounted for, but it is probable that some few referred to in column 11 have since been Vaccinated, and others have died.

In the Borough portion of the parish of Aston likewise, out of 5,653 registered births, 358 or 6·3 per cent. had remained unvaccinated at the time the return was made, while in the corresponding part of the parish of Edgbaston, 46, or 9·1 per cent. were unaccounted for.

### METEOROLOGY.

The Meteorological returns, kindly supplied by Mr. D. Smith, are as follows for the last six years :—

	1878.	1877.	1876.	1875.	1874.	1873.
Mean temperature of 1st Quarter ...	42°·4	42°·4	39°·0	40°·4	41°·4	39°·0
" " 2nd " ...	54°·5	51°·4	51°·2	53°·7	53°·2	51°·8
" " 3rd " ...	60°·9	58°·4	61°·3	60°·0	59°·9	59°·1
" " 4th " ...	40°·9	45°·5	46°·2	42°·5	41°·6	44°·5
" " year ...	49°·1	49°·5	49°·4	49°·1	49°·0	48°·6

The mean temperature for the first three quarters and for the whole year was above the average, while that for the fourth quarter was under the average temperature of the last ten years.

The rainfall, which was collected to the extent of more than  $\frac{1}{20}$ th of an inch on 148 days during the year, was three inches in excess of the average during the past ten years.

Full particulars of the height of Barometer, the range of temperature and mean temperature of each month of the year, the rainfall, etc., may be found in Tables XII and XIII.



## THE BOROUGH HOSPITAL

has received during the year 424 cases of Scarlet Fever, and 29 cases of Small Pox, making a total of 444, against 43 cases of Scarlet Fever, and 38 cases of Small Pox, or a total of 81, in 1877.

Of the twenty-nine cases of Small Pox received into the Hospital seventeen had been vaccinated and twelve unvaccinated; when it is considered what a small proportion the unvaccinated bear to the vaccinated in the whole population, some idea is obtained of the enormous proportion of the former to the latter which are subjects of attack, and therefore of the immense value of Vaccination in protecting from the disease; for although the percentage of unvaccinated persons to vaccinated is small, the proportion of unvaccinated persons attacked with Small Pox upon the total number of persons so attacked is no less than 41 per cent. The same remarkable disparity between the two classes is seen also in the mortality from Small Pox. Of the twenty-nine cases five died, or a little over 17 per cent., but of these five three were unvaccinated.

It is very satisfactory to find that the public are beginning to better appreciate the advantages offered by the Hospital. The number of cases admitted in 1878 is larger than in any year since its establishment, not excepting the year 1875, in which the severe epidemic of Small-pox existed. The increase is the more significant in regard to the fact that persons are, as a rule, much more ready to avail themselves of the benefits of such an Institution in cases of Small-pox, than in those of Scarlet Fever, one reason being that there is a greater fear in the popular mind of the former, than of the latter, and another reason being that Scarlet Fever occurs in younger subjects, and mothers and friends have consequently a stronger objection to part with them.

If the Borough Hospital were used as intended, that is, for the isolation of *first* cases, it would be easy to effectually prevent such an epidemic of Scarlet Fever as that from which the town is now recovering, and, indeed, epidemics generally; but though the Corporation has wisely and humanely done its part in establishing and efficiently maintaining such an institution, it is powerless to remove patients thither, except with the consent of their parents and friends, who, unfortunately, too often fail to do their part.

Under the circumstances the most that such a hospital can do is to confer the benefits of its treatment on those who choose to accept them; but it is clear that when an epidemic has become so widespread as that of Scarlatina in 1878, the preventive character of the hospital ceases to exert much influence, and it is powerless to restrain such epidemic, however valuable it may be as a mitigating and curative means.

The excellent management of the hospital, the improvements in its arrangements internal and external, and the addition now being made of a spacious, well-lighted, efficiently-warmed ward, will have the effect of increasing the claims of the institution to the favourable estimation of the public. I know, from my own observation, that children enjoy their convalescence there, and are so agreeably impressed by the treatment they receive that they leave it with reluctance, and would like to return, in some instances, with a suffering brother or sister about to go there.

The following statement gives the number of patients treated in the hospital in each quarter and year since its establishment:—

	DATE.		Small-pox.		Scarlatina.		Total Cases.
1874.							
4th Quarter	...	...	194	...	—	...	194
(2nd Nov. to the end of the year)							
1875.							
1st Quarter	...	...	186	...	—	...	186
2nd "	...	...	169	...	—	...	169
3rd "	...	...	53	...	13	...	66
4th "	...	...	12	...	7	...	19
Totals	...	...	420	...	20	...	440
1876.							
1st Quarter	...	...	2	...	1	...	3
2nd "	...	...	2	...	4	...	6
3rd "	...	...	2	...	5	...	7
4th "	...	...	5	...	28	...	33
Totals	...	...	11	...	38	...	49
1877.							
1st Quarter	...	...	4	...	20	...	24
2nd "	...	...	19	...	7	...	26
3rd "	...	...	15	...	13	...	28
4th "	...	...	—	...	3	...	3
Totals	...	...	38	...	43	...	81
1878.							
1st Quarter	...	...	3	...	13	...	16
2nd "	...	...	7	...	34	...	38
3rd "	...	...	12	...	139	...	145
4th "	...	...	7	...	238	...	245
Totals	...	...	29	...	424	...	444

### THE DISINFECTING STATION,

situated in Bacchus Road, has been much more used than formerly, as will be seen by the comparative statement below. The operations carried on at the station must be highly useful in arresting the spread of infection in households where cases of disease have occurred, particularly when aided as they are by the disinfection and cleansing of the houses or apartments where the cases of illness originated.

The articles disinfected at the Station in Bacchus Road number 6,976, against 1,403 last year, and consist of:—

	1878.	1877.
Bolsters and Pillows ...	899	315
Mattresses ...	290	126
Blankets ...	353	103
Beds ...	466	115
Sheets ...	424	346
Counterpanes ...	262	68
Other Articles...	4,282	330
Total ...	6,976	1,403

The cost of maintaining the establishment during the year has been about £210, viz. :—

Wages ...	£135	4	0
Horsekeep, Shoeing, &c. ...	52	0	0
Gas, for Heating and Lighting ...	16	0	0
Coal ...	6	0	0
Total	£209	4	0

Among the various sanitary agencies by which health is maintained and improved or restored, few are more important than bathing. It is not only healthful in its influence, pleasurable in itself, and agreeable in its results, it is elevating to both the physical and moral being, and, indeed, seems as nearly as possible an unmixed good. In spite, however, of these facts it is most regrettable to find how far from universal is the practice of frequent bathing. Very much has been done of late years by public authorities in the establishment of

### PUBLIC BATHS

to encourage the practice of warm and cold bathing, but at present the opportunities offered have not been embraced with the ardour or even appreciation that could be desired, and the number of the army of the "Great Unwashed" is still lamentably large. One has only to stand for a short time in a crowd, whether indoors or in the open air, to be satisfied, if any doubt previously existed, of the uncleanly condition of the great bulk of the lower classes. Now, looked at from a sanitary, let alone an æsthetic, point of view, this condition of things is a great evil, and one that efforts should be made to remove; the skin is so important a part of the human mechanism, so essential a member of that complex system of vital organs on which comfort, health, and even life depend that the neglect of it is unavoidably fraught with serious consequences. The effects of such neglect may be tardy, but they are none the less sure, and this being so, I would strongly urge, in the interests of public health, the desirability of placing the bath within more easy reach of the masses of the people. In order to do this the charges must first be reduced and ultimately probably it would be necessary to establish more baths. Swimming baths for summer might be constructed very cheaply, but in a climate like ours in which the summers are so short, and in a community made up largely of artizans like that of Birmingham, the greater want is cheap facilities for warm bathing, that is for the use of soap and water. The great point to be secured is not a pecuniary profit on the baths, but the general practice of frequent bathing by the people, and I cannot see why, as in many other sanitary matters, this view should not be acted on. If there should be no direct pecuniary gain to the funds of the Borough, there would be a distinct gain to the comfort, health, and efficiency of the community. With a rapidly-increasing population like ours the practice of bathing ought naturally to increase in at least equal proportion, but I find by a return of the number of bathers at the public baths, kindly furnished me by Mr. Purnell, Superintendent of Baths, that there were between 11,000 and 12,000 fewer bathers in 1878 than in 1876, and above 6,000 fewer than in 1875 as shewn by the following statement.

RETURN OF THE NUMBER OF BATHERS AT EACH OF THE CORPORATION  
BATHS FOR THE LAST FIVE YEARS:—

KENT ST.				WOODCOCK ST.			NORTHWOOD ST.		
	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.
1874	77138	4796	81934	47317	1889	49206	80801	2899	83700
1875	105162	4931	110093	73341	2055	75396	100858	2827	103685
1876	107647	4880	112527	76781	2451	79232	99941	2832	102773
1877	95428	4397	99825	58432	2012	60444	83844	2153	85997
1878	106820	6016	112836	64680	2171	66851	101059	2129	103188



These results are very discouraging, and to my mind shew the necessity of increasing the facilities for bathing. The Romans had a merely nominal charge to their baths, and on certain holiday occasions threw them open to the public free of charge. A proceeding of this kind was highly appreciated and made the most of, it was regarded by the populace as a great treat, similar to the present practice of the throwing open of the continental theatres on certain fête-days, and indeed was used by the leaders of the people as a means of gaining popular favour. I suggest an imitation, suitable to our circumstances, of the excellent policy of our great civilisers, we are slowly copying their system of water supply to towns, as we have long copied many other of their useful models in social oeconomies, and we might, doubtless, with equal advantage imitate their policy with regard to the bath.

### WATER SUPPLY.

I have made, as usual, monthly analyses of the Corporation Water, the average analytical results of which show a slight diminution in the quantity of organic matter present, but in mineral matter a slight increase.

The number of well waters submitted to and analysed by me during the year is 509, of these 489 were so polluted that orders were issued for the closing of the wells from which they were derived. At the end of the year as many as 465 of these wells had actually been closed; in order to do this it was found necessary to serve 126 summonses upon certain owners to attend before the Magistrates, many of these summonses, however, never came to a hearing, and, indeed, in the great majority of cases owners of property have consented without the necessity of magisterial proceedings to close wells represented to them as dangerous to health.

### SEWAGE AND REFUSE DISPOSAL.

During the year 1878,  $3\frac{1}{2}$  miles of Sewers were constructed in streets taken to by the Corporation, and two miles in streets not taken to.

The advantage to Health of improved Sewering and Draining, together with a better water supply, frequently presents itself, but it received a striking exemplification in the case of a terrace in Argyle Street. This at the end of the year 1877 was the constant abode of much Typhoid, Diarrhoea and low-type disease, ten or a dozen cases of illness might always be found there, and the cause was not difficult to discover. There was no proper drainage, for owing to the situation and disposition of the site and its entourage, this was impossible; drains were defective, traps inefficient or absent, the water supply was consequently polluted, and everything around was dirty, damp, and dismal. Last year, however, thanks to the United Drainage Scheme, the construction of a sewer became possible, and was carried out: as if by magic, the condition of things became entirely changed. The air of depression which had previously prevailed gave way to one of cleanliness, cheerfulness, and health, and now the property presents a clean bill of health and a comfortable aspect.

The foul middens in the Borough still continue to be done away with, and pan closets substituted for the privies attached to them.

Those ashpits that are soaking into the adjoining premises, or are in connection with houses where Typhoid Fever or Diphtheria have existed, receive attention first.

During the year 5,992 pans have been introduced; at the end of the year the total number of pan privies in the Borough was 28,660.

## THE PAVING

of the carriage ways and footpaths, particularly of the latter, has been largely extended, and as this is a matter affecting comfort and health, it is a source of satisfaction as well as of hope that the work may be actively continued until the whole town be redeemed from the dampness and dirt and dustiness which the absence of pavement inevitably involves.

The length of streets in the Borough was at the end of the year 194 $\frac{1}{4}$  miles, of which 157 $\frac{3}{4}$  miles had been taken to by the Corporation, and 36 $\frac{1}{2}$  miles are not at present taken to. In the streets taken to and through private lands the length of sewers is about 142 miles, while in those not taken to, it only amounts to 31 miles. Eleven miles of the carriage ways are now paved and two miles on tramway routes are partly paved and partly macadamised.

I regret to state that the untidy and injurious habit of throwing out slops and refuse of all kinds into the streets continues unabated. On Sunday mornings the state of some streets is particularly bad, having on their surface an extra quantity of refuse of different kinds, including straw, paper, cabbage leaves, and other matters, rendering them very objectionable to the persons who have to traverse them, and positively unhealthy to those who reside in them. I have observed, over and over again, that in these dirty, damp, littered streets the population has always a less healthy appearance than one living in cleanly streets. Sore eyes, pallid countenances, cachectic subjects, persons with their heads or jaws swathed in flannel, are commonly seen in such localities, and are, I feel convinced, principally the result of that particular condition of the streets which I have mentioned. People occupying the front houses are of course the principal offenders, they prefer the ready method of throwing refuse out at the doors on to the streets, to the trouble of carrying it round to the proper receptacles which are provided in every yard, and I hope the reprehensible custom will receive the attention it deserves; it is illegal and therefore preventable, and as it constitutes a considerable sanitary evil, the prevention which is possible should be insisted on and secured.

## MORTUARIES.

In these Institutions fifty-seven bodies, upon which Inquests have been held, have been deposited during the year. The return, furnishing this information and obtained through the Police, is signed by Inspector James Willis, Summoning Officer to the Coroner, who, however, remarks in a foot note, that other bodies upon which Inquests have not been held, have also been taken to the several Mortuaries.

No proper records however, appear to have been kept at the various Stations connected with the Mortuaries, so that I am unable to give with certainty the total number of bodies received into the latter, but Inspector Willis informs me, that from what he can remember from his own observations, he estimates that about seven such bodies were deposited there, making a total of 64, against 65 last year.

The fifty-seven bodies mentioned were distributed among the four Mortuaries as shown in the following Table, which also gives the corresponding statements for the previous year.

			1878.				1877.
Moor Street	...	...	32	...	...	...	32
Duke Street	...	...	10	...	...	...	12
Kenion Street	...	...	10	...	...	...	8
Ladywood Road ..	...	...	5	...	...	...	13



It is unnecessary to remark upon the great utility and convenience of these Mortuary houses. They are situated in different parts of the town for the reception of the bodies of persons killed, found dead, or for any other reason requiring temporarily to be disposed of in a convenient and decent manner, such as was impossible before their establishment, and they thus supply a want which for a long time was grievously felt.

The

### SANITARY WORK

of the Borough continues to be rapidly pushed forward, no less than 12,377 notices having been issued for the abatement of nuisances during the year. Nearly 3,200 drains have been efficiently trapped, nearly 2,000 filthy houses cleansed and whitewashed, 1,190 houses where contagious disease had existed, cleansed and purified, 1,447 privies reconstructed, 1,384 ashpits and privies repaired, 930 accumulations of manure, wash, etc., removed, 1,549 drains opened and cleared from obstruction, and 859 sink drains disconnected from the sewer. Full particulars of the work done by the Inspector and his assistants with regard to lodging houses, houses let in lodgings, the keeping of swine and other animals in improper places, smoke, &c., may be found in Table VI., the details of most of which have been supplied to me by Mr. Booker, the Inspector of Nuisances, who, I am glad to acknowledge, has given me much valuable assistance and ready cooperation. The work of the Limewashers includes the whitewashing of 5,173 privies and 3,550 passages, courts, and back yards.

### SLAUGHTER-HOUSES

which are private, number 282, against 278 in 1877 and 1876, and 274 in 1875. One hundred and sixty of them are licensed, and 122 are registered. The number of visits of inspection to Slaughter-houses, seizures of bad meat, and other particulars in connection with the Meat Supply, are to be found under the heading "Slaughter Houses" in Table VI., as furnished by Mr. Birkley, Superintendent of Markets. I regret that nothing has yet been done to supplant these private slaughter-houses by a public abattoir, because, as I have on previous occasions stated, in addition to their being frequently altogether unsuitable and great nuisances, they facilitate the traffic in diseased meat, which a single large abattoir under official supervision would enable the authorities almost entirely to prevent.

I am pleased, however, to be able to report that the Markets and Fairs Committee is exercising and has exercised for some months past every possible care to prevent the licensing of private premises which are not well suited for the purpose of slaughter-houses. It is now made an indispensable condition to further licenses that the proper requirements of space, light, ventilation, water-supply, drainage, and ready and safe access be thoroughly fulfilled, and so the errors of the past, flagrant in many instances, will in future be avoided. It is, nevertheless, much to be hoped that the time is not far distant when the boon of a public abattoir will be accorded.

I remain,

Mr. Chairman and Gentlemen,

Your obedient Servant,

ALFRED HILL, M.D.,

*Medical Officer of Health.*



TABLE I.  
BIRTHS & DEATHS (GROSS NUMBERS).

DATE.	BIRTHS.	DEATHS.
1878.	15,964	9,662
1877	16,001	9,038
1876	15,816	8,330
1875	14,862	9,668
1874	14,888	9,665
1873	14,497	8,990
1872	14,123	8,048
1871	13,443	8,594
1870	12,922	7,805
1869	12,779	7,737
1868	12,992	8,548
Average of Ten Years, } 1868—1877	14,232	8,642

NOTES.

- 1.—Population at Census, 1871, 343,787.
- 2.—Population, estimated to the middle of the Year 1878, 383,117.
- 3.—Area in Acres, 8,400.
- 4.—Number of Inhabited Houses in Borough at Cenus 1871, 68,532.
- 5.—Average number of Persons in each House at Census 1871, 5.0.

TABLE II.

ANNUAL RATE OF MORTALITY, DEATH RATE AMONG CHILDREN, AND DEATHS IN PUBLIC INSTITUTIONS.

DATE.	Annual rate of Mortality per 1,000 living.	Deaths of Children under 1 year ; percentage to total Deaths.	Percentage of Deaths of Children under 1 year to Registered Births.	Deaths of Children under 5 years ; percentage to total Deaths.	Percentage of Deaths in Public Institutions.
1878	25.2	28.6	17.0	53.1	11.8
1877	23.9	29.1	16.4	49.4	12.2
1876	22.4	30.5	16.0	46.6	11.6
1875	26.3	30.6	19.6	49.4	11.8
1874	26.8	27.8	17.8	47.5	11.8
1873	24.8	29.2	18.1	49.2	11.6
1872	23.1	29.1	16.6		12.0
1871	24.9	29.7	19.0		10.9
1870	23.0	29.9	18.1		11.4
1869	23.1				
1868	25.9				
Average of 10 Years 1868—1877	24.4				







TABLE IV.

Mortality from certain classes of Diseases, and proportions to population and to 1,000 deaths in 1878 :—

CLASS OF DISEASES.	Total Deaths.	Death Rate per 1,000 of the population.	Proportion of Deaths to 1,000 Deaths.
1.—Seven principal Zymotic Diseases	2,421	6·3	250
2.—Pulmonary (other than Phthisis)	1,751	4·6	182
3.—Tubercular      ...      ...      ...	1,015	2·6	105
4.—Wasting Diseases of Infants ...	831	2·2	86
5.—Convulsive Diseases of Infants...	648	1·6	67

NOTES.

- 1.—Includes Small-pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever, and Diarrhœa.
- 3.—Includes Phthisis, Scrofula, Rickets, and Tabes.
- 4.—Includes Marasmus, Atrophy, Debility, Want of Breast Milk, and Premature Birth.
- 5.—Includes Hydrocephalus, Infantile Meningitis, Convulsions, and Teething.

TABLE V.

SHewing THE NUMBER OF DEATHS IN THE FIVE YEARS, 1873 TO 1877, FROM THE SEVEN PRINCIPAL ZYMOTIC DISEASES,  
AND THE NUMBER IN 1878.

	1873	1874	1875	1876	1877	Annual average of 5 years, 1873-1877.	Proportion of deaths to 1,000 deaths in 5 years, 1873-1877.	1878	Proportion of deaths to 1,000 deaths in 1878.
Small-pox ...	125	637	174	0	8	189	20.7		0.5
Measles ...	123	139	141	87	309	160	17.5	54	5.6
Scarlet Fever ...	587	737	265	204	237	406	44.4	995	103.0
Diphtheria ...	107	74	55	58	52	69	7.5	83	8.6
Whooping Cough ...	169	242	438	189	369	281	30.8	455	47.1
Fever ...	203	201	204	147	144	180	19.7	147	15.2
Diarrhœa ...	728	622	868	651	457	666	72.9	682	70.6
TOTAL ...	2,042	2,652	2,145	1,336	1,576	1,951	213.5	2,421	250.6
London ...	11,385	11,230	13,411	12,565	10,292	12,258	163.0		



**TABLE VI.**  
**YEAR ENDING DECEMBER 29<sup>TH</sup>, 1878.**

SUMMARY OF NUISANCES AND OTHER MATTERS REPORTED AND WORK ACCOMPLISHED BY THE OFFICERS AND MEN EMPLOYED DURING THE YEAR ENDED DEC. 31<sup>ST</sup>, 1878.

	Work Reported.	Work Done.
Number of cases of Nuisances remaining on the books Dec. 31 <sup>st</sup> , 1877 ... ..	2,986 ...	
Defective Yard or Private Street Drains requiring opening and clearing from obstruction ... ..	1,501 ...	1,549
" Drains not efficiently trapped ... ..	2,945 ...	3,195
" Sink Drains requiring disconnection from the Sewer ... ..	827 ...	859
" Spout Drains ... ..	162 ...	118
Nuisances arising from the want of drains ... ..	370 ...	366
" " " keeping of fowls ... ..	432 ...	487
" " " water in cellars ... ..	122 ...	186
" " " foul and defective urinals ... ..	513 ...	538
" " " the overcrowding of houses ... ..	61 ...	69
Houses reported unfit for human habitation ... ..	84 ...	48
Houses Disinfected by the Inspectors where Zymotic disease has occurred ... ..	1,281 ...	1,281
Filthy Houses requiring cleansing and whitewashing ... ..	1,713 ...	1,965
Houses Cleansed and Purified—paper stripped off the walls, &c. ... ..	1,281 ...	1,190
Accumulations of wash, deposits of offensive matter, manure, &c. ... ..	1,090 ...	930
Swine and Swine Styes so kept as to be a nuisance ... ..	269 ...	486
Foul Ashpits and Privies requiring repairs ... ..	1,257 ...	1,384
Privies requiring re-construction ... ..	1,541 ...	1,447
Houses not having sufficient privy accommodation ... ..	907 ...	872
Back Yards requiring paving ... ..	621 ...	615
Filthy Workshops requiring limewashing... ..	16 ...	77
" Privies requiring cleansing and limewashing ... ..	5,450 ...	77
Number of Privies limewashed by our own men... ..	— ...	5,173
" Courts, Passages, and Back Yards ditto ... ..	3,639 ...	3,550
Miscellaneous premises limewashed by our men ... ..	— ...	289
Nuisances arising from the want of ashtubs ... ..	183 ...	469
" " " coverings for ditto ... ..	158 ...	177
" " " water .. ...	109 ...	162
" " inefficient ventilation ... ..	137 ...	153
" " foul dumb wells ... ..	3 ...	9
" " want of washhouses ... ..	2 ...	5
Number of Nuisances remaining on the Books under notice, December 31 <sup>st</sup> , 1878 ... ..	— ...	1,934
Total ... ..	<u>29,660</u> ...	<u>29,660</u>
Number of Notices issued for the abatement of Nuisances during the year ended Dec. 31 <sup>st</sup> , 1878 ... ..	12,377	
Number of cases dealt with by the Magistrates ... ..	450	
Amount of Fines ... ..	£20 0 0	
" Costs ... ..	55 14 9	
	<u>£75 14 9</u>	

TABLE VI.—Continued.

## WELL WATERS.

No. of Well Waters submitted by the Inspector for analysis	...	...	509
No. of Wells reported as polluted...	...	...	489
No. of Wells closed	...	...	465
No. of Premises supplied with Tap Water	...	...	496
No. of Persons dealt with by the Magistrates	...	...	126
Amount of Costs	...	...	£18 16 0

## COMMON LODGING HOUSES.

Houses Registered	...	...	438
Number of Lodgers allowed in the Houses	...	...	8,913
Number of Visits by Day	...	...	8,027
" " Night	...	...	3,148

## HOUSES LET IN LODGINGS.

Houses Registered	...	...	772
No. of Lodgers allowed in the Houses...	...	...	4,289

## SLAUGHTER HOUSES.

No. of Slaughter Houses	...	...	282
No. of Visits	...	...	12,072
Seizures of Bad Meat	...	...	302
Weight Destroyed	...	...	47,435lbs.
Seizures of Fish, &c.	...	...	115lbs.

## SMOKE NUISANCES.

No. of registered Proprietors of furnaces or fireplaces used for manufacturing purposes...	...	...	1,035
No. of Chimneys	...	...	1,531
No. of Notices served for the abatement of nuisances	...	...	1,035
No. of Observations made by the Smoke Inspectors...	...	...	11,490
No. of Chimneys emitting black smoke from 1 to 5 minutes in the hour, the Occupiers of which have been cautioned	...	...	13
No. of Chimneys emitting black smoke from 5 to 20 minutes in the hour	...	...	42
No. Cautioned	...	...	20
No. Summoned	...	...	22
No. excused by the Magistrates	...	...	1
No. Convicted	...	...	21
Amount of Penalties	...	...	£142 0
" Costs	...	...	81 16



TABLE VII.

QUARTERLY SHEET FOR THE WHOLE YEAR.

WEEKLY REGISTER OF DEATHS IN THE BOROUGH OF BIRMINGHAM,

From DECEMBER 29th, 1877, to DECEMBER 28th, 1878.

CAUSES OF DEATH.													First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Total for the Year.																																																																																						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52																																																				
CLASS I.—Zymotic Diseases.																																																																																																							
ORDER 1.—Miasmatic.																																																																																																							
1	Small-pox (Not vaccinated)	2	Measles	3	Scarlatina	4	Diphtheria	5	Croup	6	Whooping Cough	7	Epidemic Typhoid Fever	8	Epidemic Typhus	9	Epidemic Typhus (Malaria)	10	Simple continued Fever	11	Erysipelas	12	Scarlet Fever (Malaria)	13	Carbuncle	14	Infantile	15	Infantile	16	Infantile	17	Infantile	18	Infantile	19	Infantile	20	Infantile	21	Infantile	22	Infantile	23	Infantile	24	Infantile	25	Infantile	26	Infantile	27	Infantile	28	Infantile	29	Infantile	30	Infantile	31	Infantile	32	Infantile	33	Infantile	34	Infantile	35	Infantile	36	Infantile	37	Infantile	38	Infantile	39	Infantile	40	Infantile	41	Infantile	42	Infantile	43	Infantile	44	Infantile	45	Infantile	46	Infantile	47	Infantile	48	Infantile	49	Infantile	50	Infantile	51	Infantile	52	Infantile
ORDER 2.—Bacterial.																																																																																																							
1	Typhoid	2	Typhoid	3	Typhoid	4	Typhoid	5	Typhoid	6	Typhoid	7	Typhoid	8	Typhoid	9	Typhoid	10	Typhoid	11	Typhoid	12	Typhoid	13	Typhoid	14	Typhoid	15	Typhoid	16	Typhoid	17	Typhoid	18	Typhoid	19	Typhoid	20	Typhoid	21	Typhoid	22	Typhoid	23	Typhoid	24	Typhoid	25	Typhoid	26	Typhoid	27	Typhoid	28	Typhoid	29	Typhoid	30	Typhoid	31	Typhoid	32	Typhoid	33	Typhoid	34	Typhoid	35	Typhoid	36	Typhoid	37	Typhoid	38	Typhoid	39	Typhoid	40	Typhoid	41	Typhoid	42	Typhoid	43	Typhoid	44	Typhoid	45	Typhoid	46	Typhoid	47	Typhoid	48	Typhoid	49	Typhoid	50	Typhoid	51	Typhoid	52	Typhoid
ORDER 3.—Fungal.																																																																																																							
1	Trichinosis	2	Trichinosis	3	Trichinosis	4	Trichinosis	5	Trichinosis	6	Trichinosis	7	Trichinosis	8	Trichinosis	9	Trichinosis	10	Trichinosis	11	Trichinosis	12	Trichinosis	13	Trichinosis	14	Trichinosis	15	Trichinosis	16	Trichinosis	17	Trichinosis	18	Trichinosis	19	Trichinosis	20	Trichinosis	21	Trichinosis	22	Trichinosis	23	Trichinosis	24	Trichinosis	25	Trichinosis	26	Trichinosis	27	Trichinosis	28	Trichinosis	29	Trichinosis	30	Trichinosis	31	Trichinosis	32	Trichinosis	33	Trichinosis	34	Trichinosis	35	Trichinosis	36	Trichinosis	37	Trichinosis	38	Trichinosis	39	Trichinosis	40	Trichinosis	41	Trichinosis	42	Trichinosis	43	Trichinosis	44	Trichinosis	45	Trichinosis	46	Trichinosis	47	Trichinosis	48	Trichinosis	49	Trichinosis	50	Trichinosis	51	Trichinosis	52	Trichinosis
ORDER 4.—Parasitic.																																																																																																							
1	Trichinosis	2	Trichinosis	3	Trichinosis	4	Trichinosis	5	Trichinosis	6	Trichinosis	7	Trichinosis	8	Trichinosis	9	Trichinosis	10	Trichinosis	11	Trichinosis	12	Trichinosis	13	Trichinosis	14	Trichinosis	15	Trichinosis	16	Trichinosis	17	Trichinosis	18	Trichinosis	19	Trichinosis	20	Trichinosis	21	Trichinosis	22	Trichinosis	23	Trichinosis	24	Trichinosis	25	Trichinosis	26	Trichinosis	27	Trichinosis	28	Trichinosis	29	Trichinosis	30	Trichinosis	31	Trichinosis	32	Trichinosis	33	Trichinosis	34	Trichinosis	35	Trichinosis	36	Trichinosis	37	Trichinosis	38	Trichinosis	39	Trichinosis	40	Trichinosis	41	Trichinosis	42	Trichinosis	43	Trichinosis	44	Trichinosis	45	Trichinosis	46	Trichinosis	47	Trichinosis	48	Trichinosis	49	Trichinosis	50	Trichinosis	51	Trichinosis	52	Trichinosis
ORDER 5.—Ectoparasitic.																																																																																																							
1	Scabies	2	Scabies	3	Scabies	4	Scabies	5	Scabies	6	Scabies	7	Scabies	8	Scabies	9	Scabies	10	Scabies	11	Scabies	12	Scabies	13	Scabies	14	Scabies	15	Scabies	16	Scabies	17	Scabies	1																																																																					





During the Quarter ending MARCH 30th, 1878.

ESTIMATED POPULATION OF THE BOROUGH IN THE  
MIDDLE OF THE YEAR 1878—383,417.

[illegible]





ESTIMATED POPULATION OF THE BOROUGH IN THE  
MIDDLE OF THE YEAR 1878—888,117.

ESTIMATED POPULATION OF THE BOROUGH IN THE  
MIDDLE OF THE YEAR 1878—883.17.

[illegible]









DEATHS REGISTERED IN THE BOROUGH OF BIRMINGHAM,

During the Quarter ending DECEMBER 28th, 1878.

ESTIMATED POPULATION OF THE BOROUGH IN THE  
MIDDLE OF THE YEAR 1878--383,117.

SEX

TOTAL

AGES.

ESTIMATED POPULATION OF EACH OF THE REGISTRAR'S SUB-DISTRICTS

QUANTITATIVE TOTAL OF THE BOROUGH

CAUSES OF DEATH.

CLASS I.—Zymotic Diseases.

ORDER 1.—Miasmatic.

1 Smallpox (Not Vaccinated)

2 Measles (Not Vaccinated)

3 Scarlatina

4 Diphtheria

5 Whooping Cough

6 Croup

7 Whooping Cough

8 Diphtheria

9 Scarletina

10 Smallpox (Vaccinated)

11 Measles (Vaccinated)

12 Whooping Cough

13 Croup

14 Whooping Cough

15 Diphtheria

16 Scarletina

17 Smallpox (Vaccinated)

18 Measles (Vaccinated)

19 Whooping Cough

20 Diphtheria

21 Scarletina

22 Smallpox (Vaccinated)

23 Measles (Vaccinated)

24 Whooping Cough

25 Diphtheria

26 Scarletina

27 Smallpox (Vaccinated)

28 Measles (Vaccinated)

29 Whooping Cough

30 Diphtheria

31 Scarletina

32 Smallpox (Vaccinated)

33 Measles (Vaccinated)

34 Whooping Cough

35 Diphtheria

36 Scarletina

37 Smallpox (Vaccinated)

38 Measles (Vaccinated)

39 Whooping Cough

40 Diphtheria

41 Scarletina

42 Smallpox (Vaccinated)

43 Measles (Vaccinated)

44 Whooping Cough

45 Diphtheria

46 Scarletina

47 Smallpox (Vaccinated)

48 Measles (Vaccinated)

49 Whooping Cough

50 Diphtheria

51 Scarletina

52 Smallpox (Vaccinated)

53 Measles (Vaccinated)

54 Whooping Cough

55 Diphtheria

56 Scarletina

57 Smallpox (Vaccinated)

58 Measles (Vaccinated)

59 Whooping Cough

60 Diphtheria

61 Scarletina

62 Smallpox (Vaccinated)

63 Measles (Vaccinated)

64 Whooping Cough

65 Diphtheria

66 Scarletina

67 Smallpox (Vaccinated)

68 Measles (Vaccinated)

69 Whooping Cough

70 Diphtheria

71 Scarletina

72 Smallpox (Vaccinated)

73 Measles (Vaccinated)

74 Whooping Cough

75 Diphtheria

76 Scarletina

77 Smallpox (Vaccinated)

78 Measles (Vaccinated)

79 Whooping Cough

80 Diphtheria

81 Scarletina

82 Smallpox (Vaccinated)

83 Measles (Vaccinated)

84 Whooping Cough

85 Diphtheria

86 Scarletina

87 Smallpox (Vaccinated)

88 Measles (Vaccinated)

89 Whooping Cough

90 Diphtheria

91 Scarletina

92 Smallpox (Vaccinated)

93 Measles (Vaccinated)

94 Whooping Cough

95 Diphtheria

96 Scarletina

97 Smallpox (Vaccinated)

98 Measles (Vaccinated)

99 Whooping Cough

100 Diphtheria

101 Scarletina

102 Smallpox (Vaccinated)

103 Measles (Vaccinated)

104 Whooping Cough

105 Diphtheria

106 Scarletina

107 Smallpox (Vaccinated)

108 Measles (Vaccinated)

109 Whooping Cough

110 Diphtheria

111 Scarletina

112 Smallpox (Vaccinated)

113 Measles (Vaccinated)

114 Whooping Cough

115 Diphtheria

116 Scarletina

117 Smallpox (Vaccinated)

118 Measles (Vaccinated)

119 Whooping Cough

120 Diphtheria

121 Scarletina

122 Smallpox (Vaccinated)

123 Measles (Vaccinated)

124 Whooping Cough

125 Diphtheria

126 Scarletina

127 Smallpox (Vaccinated)

128 Measles (Vaccinated)

129 Whooping Cough

130 Diphtheria

131 Scarletina

132 Smallpox (Vaccinated)

133 Measles (Vaccinated)

134 Whooping Cough

135 Diphtheria

136 Scarletina

137 Smallpox (Vaccinated)

138 Measles (Vaccinated)

139 Whooping Cough

140 Diphtheria

141 Scarletina

142 Smallpox (Vaccinated)

143 Measles (Vaccinated)

144 Whooping Cough

145 Diphtheria

146 Scarletina

147 Smallpox (Vaccinated)

148 Measles (Vaccinated)

149 Whooping Cough

150 Diphtheria

151 Scarletina

152 Smallpox (Vaccinated)

153 Measles (Vaccinated)

154 Whooping Cough

155 Diphtheria

156 Scarletina

157 Smallpox (Vaccinated)

158 Measles (Vaccinated)

159 Whooping Cough

160 Diphtheria

161 Scarletina

162 Smallpox (Vaccinated)

163 Measles (Vaccinated)

164 Whooping Cough

165 Diphtheria

166 Scarletina

167 Smallpox (Vaccinated)

168 Measles (Vaccinated)

169 Whooping Cough

170 Diphtheria

171 Scarletina

172 Smallpox (Vaccinated)

173 Measles (Vaccinated)

174 Whooping Cough

175 Diphtheria

176 Scarletina

177 Smallpox (Vaccinated)

178 Measles (Vaccinated)

179 Whooping Cough

180 Diphtheria

181 Scarletina

182 Smallpox (Vaccinated)

183 Measles (Vaccinated)

184 Whooping Cough

185 Diphtheria

186 Scarletina

187 Smallpox (Vaccinated)

188 Measles (Vaccinated)

189 Whooping Cough

190 Diphtheria

191 Scarletina

192 Smallpox (Vaccinated)

193 Measles (Vaccinated)

194 Whooping Cough

195 Diphtheria

196 Scarletina

197 Smallpox (Vaccinated)

198 Measles (Vaccinated)

199 Whooping Cough

200 Diphtheria

201 Scarletina

202 Smallpox (Vaccinated)

203 Measles (Vaccinated)

204 Whooping Cough

205 Diphtheria

206 Scarletina

207 Smallpox (Vaccinated)

208 Measles (Vaccinated)

209 Whooping Cough

210 Diphtheria

211 Scarletina

212 Smallpox (Vaccinated)

213 Measles (Vaccinated)

214 Whooping Cough

215 Diphtheria

216 Scarletina

217 Smallpox (Vaccinated)

218 Measles (Vaccinated)

219 Whooping Cough

220 Diphtheria

221 Scarletina

222 Smallpox (Vaccinated)

223 Measles (Vaccinated)

224 Whooping Cough

225 Diphtheria

226 Scarletina

227 Smallpox (Vaccinated)

228 Measles (Vaccinated)

229 Whooping Cough

230 Diphtheria

231 Scarletina

232 Smallpox (Vaccinated)

233 Measles (Vaccinated)

234 Whooping Cough

235 Diphtheria

236 Scarletina

237 Smallpox (Vaccinated)

238 Measles (Vaccinated)

239 Whooping Cough

240 Diphtheria

241 Scarletina

242 Smallpox (Vaccinated)

243 Measles (Vaccinated)

244 Whooping Cough

245 Diphtheria

246 Scarletina

247 Smallpox (Vaccinated)

248 Measles (Vaccinated)

249 Whooping Cough

250 Diphtheria

251 Scarletina

252 Smallpox (Vaccinated)

253 Measles (Vaccinated)

254 Whooping Cough

255 Diphtheria

256 Scarletina

257 Smallpox (Vaccinated)

258 Measles (Vaccinated)

259 Whooping Cough

260 Diphtheria

261 Scarletina

262 Smallpox (Vaccinated)

263 Measles (Vaccinated)

264 Whooping Cough

265 Diphtheria

266 Scarletina

267 Smallpox (Vaccinated)

268 Measles (Vaccinated)

269 Whooping Cough

270 Diphtheria

271 Scarletina

272 Smallpox (Vaccinated)

273 Measles (Vaccinated)

274 Whooping Cough

275 Diphtheria

276 Scarletina

277 Smallpox (Vaccinated)

278 Measles (Vaccinated)

279 Whooping Cough

280 Diphtheria

281 Scarletina

282 Smallpox (Vaccinated)

283 Measles (Vaccinated)

284 Whooping Cough

285 Diphtheria

286 Scarletina

287 Smallpox (Vaccinated)

288 Measles (Vaccinated)

289 Whooping Cough

290 Diphtheria

291 Scarletina

292 Smallpox (Vaccinated)

293 Measles (Vaccinated)

294 Whooping Cough

295 Diphtheria

296 Scarletina

297 Smallpox (Vaccinated)

298 Measles (Vaccinated)

299 Whooping Cough

300 Diphtheria

301 Scarletina

302 Smallpox (Vaccinated)

303 Measles (Vaccinated)

304 Whooping Cough

305 Diphtheria

306 Scarletina

307 Smallpox (Vaccinated)

308 Measles (Vaccinated)

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721 Scarletina

722 Smallpox (Vaccinated)

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724 Whooping Cough

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726 Scarletina

727 Smallpox (Vaccinated)

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730 Diphtheria

731 Scarletina

732 Smallpox (Vaccinated)

733 Measles (Vaccinated)

734 Whooping Cough

735 Diphtheria

736 Scarletina

737 Smallpox (Vaccinated)

738 Measles (Vaccinated)

739 Whooping Cough

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741 Scarletina

742 Smallpox (Vaccinated)

743 Measles (Vaccinated)

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746 Scarletina

747 Smallpox (Vaccinated)

748 Measles (Vaccinated)

749 Whooping Cough

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754 Whooping Cough

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761 Scarletina

762 Smallpox (Vaccinated)

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767 Smallpox (Vaccinated)

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771 Scarletina

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774 Whooping Cough

775 Diphtheria

776 Scarletina

777 Smallpox (Vaccinated)

778 Measles (Vaccinated)

779 Whooping Cough

780 Diphtheria

781 Scarletina

782 Smallpox (Vaccinated)

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784 Whooping Cough

785 Diphtheria

786 Scarletina

787 Smallpox (Vaccinated)

788 Measles (Vaccinated)

789 Whooping Cough

790 Diphtheria

791 Scarletina

792 Smallpox (Vaccinated)

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794 Whooping Cough

795 Diphtheria

796 Scarletina

797 Smallpox (Vaccinated)

798 Measles (Vaccinated)

799 Whooping Cough

800 Diphtheria

801 Scarletina

802 Smallpox (Vaccinated)

803 Measles (Vaccinated)

804 Whooping Cough

805 Diphtheria

806 Scarletina

807 Smallpox (Vaccinated)

808 Measles (Vaccinated)

809 Whooping Cough

810 Diphtheria

811 Scarletina

812 Smallpox (Vaccinated)

813 Measles (Vaccinated)

814 Whooping Cough

815 Diphtheria

816 Scarletina

817 Smallpox (Vaccinated)

818 Measles (Vaccinated)

819 Whooping Cough

820 Diphtheria

821 Scarletina

822 Smallpox (Vaccinated)

823 Measles (Vaccinated)

824 Whooping Cough

825 Diphtheria

826 Scarletina

827 Smallpox (Vaccinated)

828 Measles (Vaccinated)

829 Whooping Cough

830 Diphtheria

831 Scarletina

832 Smallpox (Vaccinated)

833 Measles (Vaccinated)

834 Whooping Cough

835 Diphtheria

836 Scarletina

837 Smallpox (Vaccinated)

838 Measles (Vaccinated)

839 Whooping Cough

840 Diphtheria

841 Scarletina

842 Smallpox (Vaccinated)

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846 Scarletina

847 Smallpox (Vaccinated)

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850 Diphtheria

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865 Diphtheria

866 Scarletina

867 Smallpox (Vaccinated)

868 Measles (Vaccinated)

869 Whooping Cough

870 Diphtheria

871 Scarletina

872 Smallpox (Vaccinated)

873 Measles (Vaccinated)

874 Whooping Cough

875 Diphtheria

876 Scarletina

877 Smallpox (Vaccinated)

878 Measles (Vaccinated)

879 Whooping Cough

880 Diphtheria

881 Scarletina

882 Smallpox (Vaccinated)

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884 Whooping Cough

885 Diphtheria

886 Scarletina

887 Smallpox (Vaccinated)

888 Measles (Vaccinated)

889 Whooping Cough

890 Diphtheria

891 Scarletina

892 Smallpox (Vaccinated)

893 Measles (Vaccinated)

894 Whooping Cough

895 Diphtheria

896 Scarletina

897 Smallpox (Vaccinated)

898 Measles (Vaccinated)

899 Whooping Cough

900 Diphtheria

901 Scarletina

902 Smallpox (Vaccinated)

903 Measles (Vaccinated)

904 Whooping Cough

905 Diphtheria

906 Scarletina

907 Smallpox (Vaccinated)

908 Measles (Vaccinated)

909 Whooping Cough

910 Diphtheria

911 Scarletina

912 Smallpox (Vaccinated)

913 Measles (Vaccinated)

914 Whooping Cough

915 Diphtheria

916 Scarletina

917 Smallpox (Vaccinated)

918 Measles (Vaccinated)

919 Whooping Cough

920 Diphtheria

921 Scarletina

922 Smallpox (Vaccinated)

923 Measles (Vaccinated)

924 Whooping Cough

925 Diphtheria

926 Scarletina

927 Smallpox (Vaccinated)

928 Measles (Vaccinated)

929 Whooping Cough

930 Diphtheria

931 Scarletina

932 Smallpox (Vaccinated)

933 Measles (Vaccinated)

934 Whooping Cough

935 Diphtheria

936 Scarletina

937 Smallpox (Vaccinated)

938 Measles (Vaccinated)

939 Whooping Cough

940 Diphtheria

941 Scarletina

942 Smallpox (Vaccinated)

943 Measles (Vaccinated)

944 Whooping Cough

945 Diphtheria

946 Scarletina

947 Smallpox (Vaccinated)

948 Measles (Vaccinated)

949 Whooping Cough

950 Diphtheria

951 Scarletina

952 Smallpox (Vaccinated)

953 Measles (Vaccinated)

954 Whooping Cough

955 Diphtheria

956 Scarletina

957 Smallpox (Vaccinated)

958 Measles (Vaccinated)

959 Whooping Cough

960 Diphtheria

961 Scarletina

962 Smallpox (Vaccinated)

963 Measles (Vaccinated)

964 Whooping Cough

965 Diphtheria

966 Scarletina

967 Smallpox (Vaccinated)

968 Measles (Vaccinated)

969 Whooping Cough

9

\* Sex not known.





TABLE XII.

METEOROLOGICAL CONDITION OF THE AIR, AND AMOUNT OF RAINFALL FOR  
THE YEAR ENDING DECEMBER 28TH, 1878.

Observed at 63, Bloomsbury Street, Birmingham, at 8.0 a.m., by  
D. SMITH, Esq., F.R.A.S.

The Instruments are considered to be 340 feet above the mean level of the sea.

From the returns of the Registrar-General, the area within the Municipal Boundary of the Borough of Birmingham is taken at 8,400 acres, and the population estimated to the middle of the year 1878, at 383,117.

1878.  Months.	Pressure of Air.	TEMPERATURE OF THE AIR				RAINFALL. Gauge 8 inches diameter. Receiving surface 8 inches above the ground.		
	Barometer	Reading of Thermometer.				Depth of Rain depo- sited upon a square foot of sur- face, in inches and parts.	Measure- ment converted into weight per Acre.	Number of Days on which Rain fell, when $\frac{1}{16}$ ths of an inch or more was measured.
	Mean Monthly Reading (corrected and reduced to 32 degrees Fahrenheit)	Highest in Shade.	Lowest in Shade.	Range of Temp- erature in the Month	Mean Tempe- rature in the Month			
	In. Parts.	Dg. Prts.	Dg. Prts.	Dg. Prts.	Dg. Prts.	In. Parts.	Tons.	
Jan. ....	29·750	57°·0	26°·4	30°·6	43°·2	1·96	198	11
Feb. ....	29·847	61·0	23·0	33·0	40·1	1·11	112	8
Mar. ....	29·755	59·0	27·3	31·7	43·6	1·17	119	9
April ....	29·445	67·0	30·0	37·0	48·3	2·17	219	11
May ....	29·368	70·0	39·0	31·0	54·7	5·33	539	21
June ....	29·545	89·0	43·0	46·0	60·8	3·37	340	14
July ....	29·665	90·3	48·8	41·5	63·7	0·98	99	7
Aug. ....	29·384	77·0	46·3	30·7	62·0	6·44	650	18
Sept. ....	29·587	73·0	36·3	36·7	56·9	3·15	318	13
Oct. ....	29·364	70·6	33·2	37·4	52·2	3·66	370	16
Nov. ....	29·396	51·1	29·0	22·1	39·4	3·15	318	11
Dec. ....	29·320	52·8	10·4	42·4	31·2	2·44	246	11



# RAINFALL AND TEMPERATURE IN EACH MONTH AND YEAR FROM 1868 TO 1878.

COMPILED FROM OBSERVATIONS MADE AT 63, BLOOMSBURY STREET, BIRMINGHAM, BY D. SMITH, ESQ., F.R.A.S.

MONTH.	1868.		1869.		1870.		1871.		1872.		1873.		1874.		1875.		1876.		1877.		Average for 10 years 1868-77.		1878.																			
	Rainfall.	No. of days on which more was measured.	Rainfall.	No. of days on which more was measured.	Rainfall.	No. of days on which more was measured.	Rainfall.	No. of days on which more was measured.	Rainfall.	No. of days on which more was measured.	Rainfall.	No. of days on which more was measured.	Rainfall.	No. of days on which more was measured.	Rainfall.	No. of days on which more was measured.	Rainfall.	No. of days on which more was measured.	Rainfall.	No. of days on which more was measured.	Rainfall.	No. of days on which more was measured.	Rainfall.	No. of days on which more was measured.																		
January ...	2.290	12	37.9	12	41.6	12	38.0	13	2.285	13	32.5	9	1.485	9	32.5	21	40.4	19	4.48	19	41.4	10	1.86	10	41.4	16	3.12	16	44.4	17.5	6	36.1	18	4.47	18	42.8	13	39.9	1.96	11	43.2	
February ...	1.890	12	43.1	13	45.3	13	36.0	10	3.410	15	43.8	11	35.1	9	42.5	15	43.8	17.6	11	3.410	15	35.1	9	2.685	9	38.2	10	1.675	10	36.0	2.55	14	39.6	12	44.5	11	40.4	1.11	8	40.1		
March ...	2.920	12	44.1	9	36.2	9	40.6	6	2.665	12	44.0	14	39.9	17.2	16	44.6	5	40.7	3.16	22	40.8	2.72	15	40.3	15	40.3	5	0.81	5	40.7	3.16	22	40.8	2.72	15	40.3	12	43.5	1.17	9	43.6	
April ...	1.935	9	47.9	1	49.8	8	49.1	5	3.925	10	47.6	7	46.6	1.45	5	50.5	1.09	7	1.98	13	47.5	2.82	12	45.0	12	45.0	7	2.82	7	47.1	2.05	9	47.1	2.82	12	45.0	9	47.1	2.17	11	48.3	
May ...	1.675	5	56.9	5	50.2	17	53.9	7	2.265	11	49.3	12	50.6	3.24	7	50.5	2.10	12	1.00	5	48.1	2.27	9	48.2	9	48.2	12	2.27	12	51.5	2.40	9	51.5	2.27	9	48.2	9	51.5	5.33	21	54.7	
June ...	0.190	1	61.3	1	56.4	7	60.7	4	5.770	15	58.3	9	58.2	1.13	5	58.5	3.915	15	2.23	8	58.0	2.46	10	59.0	10	59.0	13	2.46	13	58.3	2.39	9	58.3	2.46	10	59.0	9	58.3	3.37	14	60.8	
July ...	0.395	3	65.3	0.550	2	63.6	5	64.2	3.565	11	65.0	11	62.3	1.26	8	64.0	8.14	13	1.42	6	63.7	5.03	12	59.8	12	59.8	12	5.03	12	61.9	3.14	9	61.9	5.03	12	59.8	9	61.9	0.98	7	63.7	
August ...	5.515	10	62.2	1.260	8	60.6	5	61.0	3.810	10	60.3	18	61.1	1.985	14	60.1	1.80	7	1.22	5	62.7	2.29	10	60.0	10	60.0	10	2.29	10	61.3	2.52	9	61.3	2.29	10	60.0	9	61.3	6.44	18	62.0	
September ...	2.470	7	57.6	4.105	13	58.2	7	55.4	2.645	8	57.0	8	53.4	4.545	19	56.4	3.89	14	5.83	21	55.7	4.58	13	53.7	13	53.7	13	4.58	13	56.4	3.77	12	56.4	4.58	13	53.7	12	56.4	3.15	13	56.9	
October ...	1.920	11	47.0	1.660	8	49.6	16	50.5	4.650	19	47.1	9	47.8	2.71	12	51.2	7.21	16	2.26	9	53.0	1.91	12	49.1	12	49.1	12	1.91	12	49.2	3.24	12	49.2	1.91	12	49.1	12	49.2	3.66	16	52.2	
November ...	1.815	8	41.5	2.035	9	44.3	11	40.7	3.475	18	44.3	10	43.0	1.45	10	41.6	3.31	10	2.94	8	43.4	2.87	15	45.2	15	45.2	15	2.87	15	42.6	2.27	10	42.6	2.87	15	45.2	10	42.6	3.15	11	39.4	
December ...	6.065	26	44.9	4.005	13	36.5	13	32.8	4.505	17	41.1	5	41.3	4.375	16	33.9	1.45	10	5.68	19	42.9	2.40	11	41.3	11	41.3	11	2.40	11	39.3	3.21	14	39.3	2.40	11	41.3	14	39.3	2.44	11	31.2	
YEAR ...	29.620	116	50.8	31.460	119	49.3	23.650	102	45.135	167	49.8	29.255	133	28.41	131	49.0	38.51	135	32.02	136	49.4	36.75	149	49.1	49.1	49.1	49.1	36.75	149	49.3	32.50	129	49.3	36.75	149	49.3	32.50	129	49.3	34.93	150	49.6





TABLE XIV.

NEW CASES OF DISEASE COMING UNDER TREATMENT DURING THE YEAR ENDING  
DECEMBER 28TH, 1878, AT THE FOLLOWING INSTITUTIONS, &c.

DISEASES.	I. General Hospital.	II. General Dispensary	III. Queen's Hospital.	IV. Children's Hospital.	V. The Work- house.	VI. Out-door Pauper Patients.	VII. Boro' Hosptl.	TOTAL.
Small Pox .....	...	...	...	...	...	3	20	23
Measles .....	7	21	11	10	11	13	...	73
Scarlet Fever .....	68	95	51	205	...	281	424	1,124
Diphtheria .....	6	7	16	32	1	3	...	65
Whooping Cough ...	17	31	33	1,247	83	87	...	1,498
Croup .....	4	1	5	7	1	1	...	19
Diarrhoea .....	1,044	107	388	2,441	92	372	...	4,444
Dysentery .....	4	1	1	1	...	..	...	7
Asiatic Cholera .....	...	...	...	...	...	...	...	...
Erysipelas .....	28	18	44	18	26	21	...	155
Continued Fever.....	...	...	..	...	...	...	1	1
Typhus .....	...	...	...	...	...	...	...	...
Typhoid .....	32	34	30	58	25	...	...	179
Relapsing .....	...	...	...	...	...	3	...	3
Febricula .....	29	12	29	344	10	348	...	772
Ague.....	4	...	4	...	...	...	...	8
Rheumatic Fever ...	41	52	78	6	2	46	...	225
Puerperal Fever .....	..	3	...	...	...	17	...	20
Bronchitis & Catarrh	670	1,010	900	2,502	498	1,696	...	7,276
Influenza .....	1	59	4	11	...	...	...	75
Pleurisy & Pneumonia	98	117	103	123	25	32	...	498
Phthisis .....	425	959	523	105	201	170	..	2,383
Constl. Syphilis .....	302	94	373	263	266	20	...	1,318
All other Diseases ...	14,427	9,714	9,799	9,383	2,901	3,453	..	49,317
Accidents.. .....	10,435	106	6,642	85	96	9	...	17,373
Totals .....	27,282	12,441	19,034	16,841	4,238	6,576	444	86,856

The above returns are made by (I.) Howard G. Lowe, Esq.; (II.) J. H. Palmer, J. M. Taylor, and C. Gosling, Esqrs.; (III.) J. Spofforth, Esq., M.R.C.S., and J. Wood, Esq.; (IV.) W. Rhodes, A. Cardew, M.R.C.S., and T. Richards, Esqrs.; (V.) A. B. Simpson, Esq., L.R.C.S.; (VI.) V. G. Coulton, Esq., Clerk to the Guardians; (VII.) William Bates, Esq., B.A., Surgeon to the Borough Hospital.

TABLE XV.—WATER: RESULTS OF ANALYSIS

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
<b>1878. CORPORATION SUPPLY.</b>					
Jan. 10th	Rear of 46, Miles Street ...	6°·6	26·30	·248	·079
Feb. 5th	2 Court, Skinner Street ...	6°·1	33·08	·081	·024
Mar. 5th	21 Court, Heneage Street ...	6°·1	31·36	·118	·029
April 10th	19 Court, Lancaster Street ...	6°·7	24·30	·303	·047
May 7th	9 Court, Fordrough Street ...	12°·2	21·46	·130	·044
June 12th	16 Court, Carver Street ...	20°·0	24·90	·143	·073
July 12th	12 Court, Bordesley Street ...	17°·2	20·20	·372	·081
Aug. 12th	27 Court, Sherlock Street ...	17°·7	33·80	·139	·031
Sep. 11th	6 Court, Vauxhall Road ...	16°·1	26·00	·141	·051
Oct. 11th	38, Gibb Street ...	11°·1	27·00	·238	·032
Nov. 13th	Rear of 29, Lord Street ...	6°·1	24·80	·355	·059
Dec. 13th	152, Sand Pits ...	3°·9	27·80	·374	·047
	Average results, 1878 ...	10°·8	26·75	·220	·050
	" " 1877 ...	10°·9	25·14	·279	·051
	" " 1876 ...	10°·0	25·13	·266	·063
	" " 1875 ...	9°·8	27·70	·285	·082
<b>1878. WELL WATERS.</b>					
Jan. 7th	Stone's Buildings, College St. (Whooping Cough) ...	...	87·0	...	rather large
" "	84 and 85, Aston Road (Measles) ...	...	95·0	...	"
" "	19 Court, Aston Road (Measles) ...	...	114·8	...	moderate
" "	Cellent Grove, Hooper Street (Scarlet Fever) ...	...	130·0	...	"
" "	Lee Crescent Ter., Lee Crescent (Whooping Cough) ...	...	80·8	...	rather large
" "	3 Ct., & No. 60, Up. Gough St. (Measles) ...	...	132·0	...	very large
" "	Springfield Terrace, Spring Street ...	...	66·0	...	moderate
" "	67, Gough Road ...	...	61·0	...	large
" 9th	3 and 4 Courts, Hollier St. (Whooping Cough) ...	...	195·8	...	very large
" "	St. Michael's Ter., Factory Rd. (Scarlet Fever) ...	...	122·0	...	"
" "	5 Court, Long St. (Whooping Cough) ...	...	229·8	...	moderate
" "	5 and 6 Courts, Kent Street North ...	...	196·0	...	large
" 10th	24 Court, Lower Tower Street (Whooping Cough) ...	...	211·0	...	very large
" "	13 Court Lancaster Street ...	...	246·0	...	"
" "	22 Court, Bordesley Street ...	...	162·8	...	very large
" "	5 Court, Newtown Row ...	...	267·0	...	...
" "	8 Court, Vauxhall Road (Scarlet Fever) ...	...	185·8	...	very large
" "	1 Court, Cotton Row ...	...	283·0	...	...
" 15th	20 Court, Alcester Street (Measles) ...	...	248·2	...	large
" "	13 and 15, Sun Street West (Whooping Cough) ...	...	61·1	...	"
" "	1 and 2, Florence Villas, Dolobran Rd. ...	...	62·0	...	very large
" "	3 and 4, " " " " ...	...	62·0	...	"
" "	361, Pershore Road ...	...	100·0	...	"
" "	363 and 364, Pershore Road ...	...	101·0	...	"
" 17th	22 Court, Gt. Russell Street (Fever) ...	...	94·2	...	"
" "	34 Court, Summer Lane (Whooping Cough) ...	...	234·0	...	"
" "	134, Icknield Square, and 261--265, Monument Road (Scarlet Fever) ...	...	69·0	...	moderate
" "	168 and 169, St. Vincent Street ...	...	76·0	...	"
" "	18 and 19, Cattell's Grove (Diarrhoea) ...	...	120·0	...	very large
" "	41 and 42, Austin Street (Whooping Cough) ...	...	79·4	...	rather large
" 22nd	58, Heath Street (Typhoid) ...	...	80·2	...	very large
" "	47 and 48, Icknield Sq. (Scarlet Fever) ...	...	113·0	...	...
" "	42 and 43, Lodge Road (Measles) ...	...	75·0	...	rather large
" "	1 Court, Sherlock Street ...	...	102·0	...	...
" "	37 and 38, Friston Street (Typhoid) ...	...	67·0	...	rather large
" "	11 Court, Barford St. (Whooping Cough) ...	...	363·4	...	"



EXPRESSED IN PARTS PER 100,000.

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contam- ination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor- ary.	Perman- ent.	Total.	
·004	·341	·423	3120	1·9	8°·3	7°·7	16°·0	Clear
·002	·220	·245	1890	1·4	7°·4	10°·0	17°·4	Clear
·001	·209	·238	1780	1·4	9°·3	9°·5	18°·8	Clear
·002	·321	·369	2890	1·9	6°·1	7°·7	13°·8	Slightly turbid
·005	·220	·268	1920	1·9	4°·7	9°·3	14°·0	Turbid
·003	·198	·273	1680	1·9	7°·2	7°·3	14°·5	Clear
·004	·143	·227	1140	1·5	5°·9	6°·1	12°·0	Clear
·005	·209	·244	1810	1·7	13°·1	7°·1	20°·2	Clear
·002	·099	·151	686	1·7	7°·8	8°·7	16°·5	Slightly turbid
·003	·110	·144	800	1·5	10°·9	9°·3	20°·2	Clear
·003	·209	·270	1790	1·6	9°·0	6°·0	15°·0	Rather turbid
·003	·330	·379	3000	2·0	9°·1	10°·1	19°·2	Nearly Clear
·003	·217	·269	1870	1·78	9°·2	8°·2	17°·4	
·002	·261	·253	1690	1·65	7°·2	8°·3	15°·5	
·002	·230	·295	1990	1·71	6°·3	10°·2	16°·5	
·0025	·166	·250	1420	1·78	6°·9	12°·5	19°·4	
·006	2·20	2·205	21730	10·8	...	...	...	Clear
·007	1·10	1·106	10740	22·3	...	...	...	Clear
·004	·66	·663	6310	32·2	...	...	...	Clear
·048	6·60	6·639	66070	15·4	...	...	...	Clear
·003	3·30	3·33	33000	10·4	...	...	...	Clear
·004	3·08	3·083	30510	25·9	...	...	...	Clear
·004	2·86	2·863	28310	8·5	...	...	...	Clear
·005	1·32	1·324	12920	3·6	...	...	...	Clear
·004	6·05	6·053	60210	15·2	...	...	...	Clear
·005	6·71	6·722	66900	9·0	...	...	...	Clear
·004	10·56	10·563	105310	24·9	...	...	...	Clear
·004	6·60	6·603	65710	16·6	...	...	...	Clear
·006	10·56	10·563	105310	26·3	...	...	...	Clear
1·000	6·60	7·423	73910	41·5	...	...	...	Clear
·007	5·17	5·176	51440	16·5	...	...	...	Clear
·085	9·90	9·966	99400	46·0	...	...	...	Clear
·004	7·70	7·703	76710	12·1	...	...	...	Clear
·300	4·73	4·977	49450	53·7	...	...	...	Clear
·006	9·35	9·355	93230	31·2	...	...	...	Clear
·018	2·75	2·765	27330	8·1	...	...	...	Clear
·005	trace	...	0	1·9	...	...	...	Clear
·004	"	...	0	1·8	...	...	...	Clear
·006	3·52	3·525	34930	5·8	...	...	...	Clear
·006	3·52	3·525	34930	5·9	...	...	...	Clear
·008	2·75	2·756	27240	9·0	...	...	...	Clear
·003	2·42	2·422	23900	30·6	...	...	...	Clear
·004	2·53	2·533	25010	6·7	...	...	...	Clear
·002	3·74	3·742	37100	8·0	...	...	...	Clear
·004	3·30	3·303	22710	8·2	...	...	...	Clear
·004	2·31	2·313	22810	3·6	...	...	...	Clear
·007	3·30	3·506	32740	4·4	...	...	...	Clear
·250	4·40	4·606	45740	16·5	...	...	...	Clear
·005	3·52	3·524	34920	8·9	...	...	...	Clear
·030	3·96	3·985	39530	11·0	...	...	...	Clear
·006	3·41	3·415	33830	10·0	...	...	...	Clear
·020	3·52	3·536	35040	29·5	...	...	...	Clear

TABLE XV.

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
1878.	WELL WATERS--(continued).				
Jan. 23rd	314 and 315, Coventry Road (Scarlet Fever) ...	...	171.2	...	rather large
" "	10 Court, Emily Street ...	...	208.0	...	very excessive
" "	140—145, Grange Road ...	...	131.0	...	large
" "	114 and 115, Greenway Street ...	...	96.0	...	very large
" "	24 Court, Darwin Street ...	...	202.0	...	"
" "	48 and 49, Hawkes Street ...	...	101.4	...	"
" 28th	53 Court, Farm Street ...	...	261.2	...	"
" "	62 and 63, Long Acre ...	...	156.0	...	"
" "	Claremont Place, Dolobran Road ...	...	50.0	...	"
" "	Hampstead Place, Dolobran Road, (Whooping Cough) ...	...	56.0	...	rather large
" "	1, Winson Green Road ...	...	99.0	...	...
" 30th	111 and 112, Sampson Road ...	...	111.2	...	very large
" "	64 and 65, George Street West, and 37 Court, Prescott St. (Typhoid) ...	...	39.0	...	moderate
" "	53 and 54, Park Road ...	...	198.0	...	very large
Feb. 1st	17 Court, Bell Barn Road (Fever) ...	...	140.0	...	rather large
" "	27 Court, New John St. (Scarlet Fever) ...	...	190.4	...	...
" 5th	Back 100, Cuckoo Road ...	...	133.2	...	very large
" "	101—105, Cuckoo Road ...	...	128.0	...	"
" "	1, Lorne Terrace, Argyle Street ...	...	82.0	...	...
" "	2, Lorne Terrace, Argyle Street ...	...	80.0	...	...
" "	4 and 5, Sampson Road ...	...	120.0	...	very large
" "	The Hollies and The Laurels, Hickman Road ...	...	72.4	...	...
" 15th	9 Court, Navigation Street ...	...	141.0	...	very large
" "	12 Court, Suffolk Street ...	...	112.0	...	...
" "	4 Court, Ryland Street, and 7 Court, Darwin Street ...	...	322.2	...	...
" "	13 Court, Lombard <sup>e</sup> Street ...	...	203.0	...	very large
" "	1 Court, Upper Highgate Street, and 8 Court, Leopold Street (Whooping Cough) ...	...	136.0	...	"
" "	41—45, Oughton Place (Whooping Cough) ...	...	163.4	...	"
" 20th	8 and 9, Frank Street (Typhoid) ...	...	178.6	...	"
" "	43, Priestley Road (Typhoid) ...	...	75.8	...	"
" "	12 Court, Cheapside (Diarrhoea) ...	...	321.8	...	"
" 21st	23 & 24 Courts, Wheeler St. (Scarlet Fever) ...	...	166.0	...	...
" "	23 & 24 Courts, Wheeler St. (Scarlet Fever) ...	...	54.8	...	...
" "	117, Great King Street (Scarlet Fever) ...	...	165.4	...	...
" 25th	17 and 18, Newdegate Street ...	...	159.6	...	...
" "	2 Court, Meriden Street (Whooping Cough) ...	...	202.8	...	...
" "	8 Court, New Canal Street (Diarrhoea) ...	...	919.1	...	...
" 26th	5 Court, Allison Street ...	...	334.0	...	...
" "	245 & 246, Bell Barn Road (Scarlet Fever) ...	...	66.8	...	rather large
" "	42 Court, Cromwell Street ...	...	197.4	...	very large
" 27th	1 Court, Tower St. (1st pump) (Scarlet Fever) ...	...	152.6	...	very large
" "	1 Court, Tower St. (2nd pump) (Scarlet Fever) ...	...	165.8	...	...
" "	22—25, Rodway St. (Whooping Cough) ...	...	47.8	...	moderate
" "	36—41, All Saints' Road ...	...	102.0	...	very large
" "	2 Court, Farm Street (Fever) ...	...	135.8	...	...
" "	23—25, Piddock St. (Whooping Cough) ...	...	148.4	...	very large

continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contam- ination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor- ary.	Perman- ent.	Total.	
·800	7·81	8·470	84380	18·1	...	...	...	Clear
·008	4·40	4·406	43740	15·4	...	...	...	Clear
·006	3·08	3·085	30530	8·8	...	...	...	Clear
·009	4·62	4·627	45950	9·0	...	...	...	Clear
·050	5·50	5·541	55090	22·1	...	...	...	Clear
·008	3·30	3·306	32740	9·0	...	...	...	Clear
1·120	3·41	4·330	43000	31·9	...	...	...	Clear
·145	3·30	3·337	33050	23·6	...	...	...	Clear
·010	trace	...	...	1·4	...	...	...	Clear
·007	"	...	...	2·2	...	...	...	Clear
·040	·55	·583	5510	22·4	...	...	...	Slightly turbid odour of naphtha
·009	trace	...	0	16·0	...	...	...	Slightly turbid
·004	1·10	1·103	10710	5·4	...	...	...	Clear
·008	11·00	11·007	109750	22·8	...	...	...	Clear
·016	7·15	7·163	71310	15·7	...	...	...	Clear
·100	5·50	5·582	55500	21·8	...	...	...	Clear
·006	4·40	4·405	43730	8·8	...	...	...	Clear
·006	7·15	7·155	71230	8·8	...	...	...	Clear
·046	1·87	1·908	18760	6·7	...	...	...	Clear
·015	1·21	1·716	17840	4·9	...	...	...	Clear
·005	1·87	1·874	18420	12·7	...	...	...	Clear
2·080	trace	1·706	16740	6·2	...	...	...	Turbid, yellow, odour of Sewage
·007	4·40	4·406	43740	23·0	...	...	...	Clear
·004	4·29	4·293	42610	11·3	...	...	...	Clear
·016	3·52	3·533	35010	23·2	...	...	...	Clear
·006	5·50	5·505	54730	19·8	...	...	...	Clear
·004	1·34	1·433	14010	14·2	...	...	...	Clear
·005	4·29	4·294	42920	10·0	...	...	...	Clear
·006	1·10	1·105	10730	14·4	...	...	...	Clear
·005	2·09	2·094	20620	1·7	...	...	...	Clear
·002	13·20	13·201	131690	35·0	...	...	...	Clear
2·050	6·16	7·841	78090	18·2	...	...	...	Clear
·120	1·54	1·639	16070	3·0	...	...	...	Clear
·250	6·16	6·366	63340	19·9	...	...	...	Clear
·450	6·93	7·301	72690	8·0	...	...	...	Clear, residue brown]
·540	8·25	8·694	86620	14·0	...	...	...	Clear
·030	6·60	6·625	65930	26·0	...	...	...	Clear
1·800	9·68	11·163	111310	53·5	...	...	...	Clear, residue brown
·004	2·53	2·533	25010	6·5	...	...	...	Clear
·005	7·70	7·704	76720	11·5	...	...	...	Clear
·005	8·80	8·804	87720	19·7	...	...	...	Clear
·150	5·61	5·733	57010	19·7	...	...	...	Clear
·002	2·09	2·091	20590	5·7	..	...	...	Clear
·010	4·40	4·408	43760	7·6	...	...	...	Clear
·530	6·38	6·815	67830	10·2	...	...	...	Clear
·005	7·37	7·374	73420	12·2	...	...	...	Clear



TABLE XV.-

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
1878.	WELL WATERS—(continued).				
Mar. 5th	159 and 160, Ledsam St., and 171 and 172, St. Vincent St. (Scarlet Fever)	...	119·6	...	very large
" "	8 Court, Kent Street, (Scarlet Fever)	...	114·8	...	rather large
" "	40 & 41 Cts., Irving St. (Scarlet Fever)	...	105·8	...	moderate
" "	22 and 22½, Hick Street	...	132·0	...	rather large
" "	5, Glover Street (Diarrhoea)	...	222·0	...	very large
" "	2 Court, Lawley Street	...	244·4	...	"
" 7th	22, Friston Street (Scarlet Fever)	...	150·6	...	rather large
" "	38 and 39, Cambridge St. (Diarrhoea)	...	149·8	...	...
" "	14 & 15, Turner St. (Whooping Cough)	...	123·8	...	...
" "	43 and 44, Cregoe Street	...	146·0	...	large
" "	73 and 74, Summer Rd. (Diphtheria)	...	177·4	...	very large
" 15th	191 and 192, Cheapside	...	269·6	...	"
" "	62—68, William Edward Street	...	151·8	...	"
" "	22 and 23, Adelaide Street	...	108·0	...	moderate
" "	79—82, Bridge Street West	...	64·8	...	...
" "	12 Court, Inkerman Street	...	164·4	...	large
" 18th	101—105, Cuckoo Road	...	132·6	...	...
" "	Back 106, Cuckoo Rd. (Scarlet Fever)	...	90·8	...	very large
" "	33 and 34, Lee Crescent	...	42·0	...	moderate
" 19th	Edgbaston Ter., Bell Barn Rd. (Typhoid)	...	158·8	...	large
" "	13 Court, Bell Barn Road (Typhoid)...	...	164·4	...	rather large
" 22nd	79 and 80, Freeth Street (Diphtheria)	...	103·6	...	large
" "	9 and 10, Spring Hill	...	124·8	...	...
" "	110 and 111, Inkerman Street	...	81·8	...	...
" "	112 and 113, Inkerman Street	...	86·0	...	rather large
" 23rd	47 and 48, Great King Street	...	80·8	...	"
" "	82 & 83, Well St. (Whooping Cough)	...	123·9	...	...
" 26th	4 Court, Lennox Street (Fever)	...	107·6	...	moderate
" "	21 Court, Alcester Street	...	198·8	...	very large
" "	4 Court, Conybere Street (Measles)	...	174·8	...	small
" "	30—33, Sandy Lane (Small-pox)	...	122·0	...	small
" "	61 and 62, Main Street (Diarrhoea)	...	113·8	...	very large
" 29th	78 and 79, Well Street (Whooping Cough)	...	67·4	...	small
" "	19 Court, Bromsgrove Street...	...	146·6	...	very large
" "	18—20, Court, Bromsgrove Street	...	204·8	...	...
" "	6 Court, Lancaster Street (Diarrhoea)	...	148·0	...	...
" "	103 and 104, Bridge Street West	...	64·8	...	...
" "	97 and 98, Burbury Street	...	264·4	...	...
April 2nd	81 and 82, Balsall Heath Road	...	93·6	...	...
" "	68—70, Bloomsbury Place	...	197·6	...	very large
" "	11, Varna Road	...	129·0	...	"
" "	22 and 23, Henry Street	...	192·8	...	large
" "	154—159, Ashted Row (Typhoid)	...	204·4	...	very large
" "	1 Court, Canal Street (Scarlet Fever)	...	266·0	...	...
" 5th	104 and 105, Inkerman Street (Scarlet Fever)	...	114·6	...	very large
" "	117, Wheeley's Road	...	147·6	...	large
" "	1 Court, Palmer Street	...	251·0	...	very large
" "	62 and 63, Navigation Street	...	156·8	...	"
" "	5 Court, Curzon Street	...	72·4	...	...
" "	285 and 286, Watery Lane	...	146·0	...	large

continued.)

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contam- ination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor- ary.	Perman- ent.	Total.	
.009	9.68	9.687	96550	12.4	...	...	...	Clear
.009	6.60	6.607	65760	14.6	...	...	...	Clear
.005	5.39	5.394	53620	13.5	...	...	...	Clear
.005	1.98	1.984	19520	6.3	...	...	...	Turbid
.006	2.20	2.205	21730	48.1	...	...	...	Clear
.005	4.40	4.404	43720	27.9	..	...	...	Slightly turbid
.005	6.71	6.714	66820	14.0	...	...	...	Clear
.036	1.76	1.789	17570	37.3	...	...	...	Slightly turbid
.210	2.75	2.923	28910	1.1	...	...	...	Clear
.005	3.85	3.854	38220	16.2	...	...	...	Clear
.006	7.15	7.155	71230	12.6	...	...	...	Clear
.006	13.53	13.535	135330	30.5	...	...	...	Clear
.005	2.20	2.204	21720	13.2	...	...	...	Clear
.002	3.3	3.301	32690	8.5	...	...	...	Clear
.002	2.75	2.751	27190	8.1	...	...	...	Clear
.003	6.05	6.052	60204	10.8	...	...	...	Clear
.027	4.95	4.972	49400	9.0	...	...	...	Clear
.005	2.20	2.204	21720	8.5	...	...	...	Clear
.002	.88	.881	8490	4.2	...	...	...	Clear
.003	6.60	6.602	65700	12.1	...	...	...	Clear
.002	6.60	6.601	65690	72.5	...	...	...	Clear
.005	3.85	3.854	38220	12.0	...	...	...	Clear
.040	3.30	3.333	33010	26.0	...	...	...	Clear
.020	4.73	4.746	47140	8.0	...	...	...	Clear
.004	3.30	3.303	33710	7.0	...	...	...	Clear
.004	4.18	4.183	41510	10.1	...	...	...	Clear
.050	5.50	5.541	55091	15.8	...	...	...	Clear
.012	1.98	1.99	19680	9.7	...	...	...	Clear
.004	6.82	6.823	67910	31.0	...	...	...	Clear
.001	2.75	2.751	27190	14.9	...	...	...	Clear
.001	2.64	2.641	26090	6.3	...	...	...	Clear
.003	3.08	3.082	30500	8.5	...	...	...	Clear
.002	2.31	2.311	22890	9.3	...	...	...	Clear
.010	6.05	6.058	60260	18.5	...	...	...	Clear
.365	5.50	5.800	57680	26.6	...	...	...	Clear
.015	4.35	4.962	49300	20.9	...	...	...	Clear
.420	1.65	1.996	19640	13.0	...	...	...	Clear
2.850	12.10	14.44	144090	33.1	...	...	...	Clear
.800	1.98	2.640	26080	7.3	...	...	...	Clear
.007	14.30	14.306	142740	20.5	...	...	...	Clear
.003	3.30	3.302	32700	9.0	...	...	...	Clear
.004	3.52	3.523	34910	26.5	...	...	...	Clear
.004	7.15	7.153	71210	25.8	...	...	...	Clear
.150	6.05	6.173	61410	37.9	...	...	...	Turbid
.005	4.95	4.954	49220	11.8	...	...	...	Clear
.003	3.52	3.523	34900	35.0	...	...	...	Clear
.006	12.10	12.105	120730	36.0	...	...	...	Clear
.012	5.50	5.510	54780	29.9	...	...	...	Clear
.050	2.97	3.011	29790	8.9	...	...	...	Clear
.005	6.38	6.384	63520	16.8	...	...	...	Clear

TABLE XV.—

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
1878.	WELL WATERS—(continued).				
April 9th	2 Court, Pershore Street ...	...	77.6	...	...
" "	Ryland Ter., Ryland Street, Deritend (Measles) ...	...	215.6	...	large
" "	8 Court, Vaughton Street (Scarlet Fever) ...	...	197.0	...	...
" "	23 and 24, Friston Street ...	...	116.0	...	rather large
" "	134, Icknield Square, and 339—343, Monument Road ...	...	72.4	...	large
" "	67 and 68, Dean Street (Whooping Cough) ...	...	74.0	...	...
" 12th	136 and 137, Inkerman Street ...	...	201.6	...	...
" "	140 and 141, Inkerman Street ...	...	156.6	...	...
" "	4 Court, Curzon Street (Scarlet Fever) ...	...	89.0	...	...
" "	14 Court, Bordesley Street ...	...	179.8	...	...
" "	23, Bordesley Street ...	...	112.4	...	very large
" "		...	86.0	...	...
" "	7 and 8, Adelaide Street ...	...	136.0	...	very large
" 15th	20, Cambridge Crescent ...	...	86.0	...	"
" "	137 and 138, Bath Row ...	...	134.6	...	...
" 18th	162 and 163, Bristol Street (Typhoid) ...	...	122.6	...	very large
" "	118 and 119, Wheeley's Road ...	...	163.0	...	"
" "	Back 71 & 72, South Road (Typhoid) ...	...	171.8	...	...
" "	20 and 21, Exeter Row ...	...	231.4	...	...
" "	3 Court, Norfolk Street (Diphtheria) ...	...	155.0	...	very large
" 25th	149 and 150, Well Street ...	...	67.6	...	...
" "	2 Court, Freeman Street (Fever) ...	...	173.6	...	...
" "	Victoria Terrace, Great King Street ...	...	135.0	...	...
" "	1 and 2, St. Martin's Lane ...	...	71.8	...	...
" 26th	85, Smallbrook Street ...	...	180.4	...	very large
" "	15 and 16, Bristol Street ...	...	158.0	...	...
" "	13 Court, Warwick Street (Diarrhœa) ...	...	234.6	...	moderate
" "	97 and 98, Coventry Road ...	...	121.6	...	very large
" "	Back 50, Bordesley Park Road ...	...	55.0	...	large
" "	314, Bradford Street (Scarlet Fever) ...	...	37.8	...	...
" "	Paradise Terrace, Darwin Street ...	...	184.4	...	very large
" "	Stoke Square, Hick Street (Typhoid) ...	...	118.0	...	"
May 1st	76 and 77, Long Acre, and 53 and 54, Railway Terrace (Scarlet Fever) ...	...	97.6	...	large
" "	79 and 80, Herbert Road (Whooping Cough) ...	...	107.4	...	"
" "	91—94, Lord Street ...	...	168.0	...	...
" "	17 Court, Nelson Street South, and 88 and 89, Sherlock Street (Scarlet Fever) ...	...	271.0	...	...
" "	11 Court, Navigation Street (Scarlet Fever) ...	...	178.0	...	very large
" "	146 and 147, Grange Road ...	...	136.0	...	...
" 3rd	214 and 215, Neehells Park Road ...	...	79.0	...	excessive
" "	228, Neehells Park Road ...	...	119.2	...	...
" "	29—32, Vale Street ...	...	287.0	...	...
" "	83, Smallbrook Street ...	...	169.0	...	very large
" "	84, Smallbrook Street ...	...	172.0	...	"
" "	1 Court, Henn's Walk ...	...	42.0	...	large
" 7th	28 and 29, Weston Street ...	...	178.0	...	...
" "	5 Court, Vale Street ...	...	251.4	...	...
" "	6 Court, Vale Street ...	...	368.0	...	...



(continued.)

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contam- ination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor- ary.	Perman- ent.	Total.	
1.500	2.09	3.320	32880	8.5	...	...	..	Clear
.004	3.30	3.303	32710	15.8	...	...	...	Clear
.500	4.51	4.920	48880	27.1	...	...	...	Clear
.004	6.49	6.493	64610	13.7	...	...	...	Clear
.008	3.85	3.857	38250	7.0	...	...	...	Clear
1.150	1.54	2.486	24540	5.3	...	...	...	Clear
3.300	14.30	17.016	169840	18.5	...	...	...	Clear
.750	10.45	11.066	110340	19.1	...	...	...	Clear
1.200	3.30	4.288	42560	11.3	...	...	..	Clear
.017	.22	.234	2020	25.1	...	...	...	Clear
.005	4.40	4.404	43720	11.3	...	...	...	Clear
.250	4.40	4.606	45740	7.9	...	...	...	Clear
.004	6.05	6.053	60210	9.9	...	...	...	Clear
.003	2.75	2.752	27200	5.1	...	...	...	Bright, with some particles
.050	6.05	6.091	60050	18.5	...	...	...	Turbid
.005	2.86	2.864	28320	9.4	...	...	...	Clear
.004	1.98	1.983	19510	42.0	...	...	...	Clear, with small particles
2.000	6.60	8.240	82180	13.2	...	...	...	Clear
.040	10.78	10.813	107810	23.2	...	...	...	Clear
.004	2.97	2.973	29410	36.2	...	...	...	Clear
.022	5.61	5.628	55960	10.5	...	...	...	Slightly turbid
.035	2.20	2.229	21970	31.0	...	...	...	Clear
2.500	5.83	7.889	78570	18.2	...	...	...	Clear
.028	1.98	2.003	19710	12.5	...	...	...	Turbid, contains many particles
.009	7.15	7.157	71250	22.6	...	...	...	Clear, contains many little particles
.065	8.80	8.853	88210	15.1	...	...	...	Clear
.003	7.70	7.702	76700	28.0	...	...	...	Clear
.002	2.09	2.092	20600	7.8	...	...	...	Clear
.006	.99	.995	9630	2.5	...	...	...	Clear
.230	0.0	.189	1570	2.3	...	...	...	Slightly turbid
.006	6.60	6.605	65730	18.0	...	...	...	Clear
.005	3.30	3.304	32720	6.2	...	...	...	Clear, many suspended particles
.008	3.30	3.306	32740	12.5	...	...	...	Clear, with many sus- pended particles
.005	4.51	4.514	44820	8.7	...	...	...	Clear
.410	3.96	4.298	42660	26.8	...	...	...	Clear
1.000	7.92	8.743	87110	29.5	...	...	...	Clear
.008	7.15	7.156	71240	35.0	...	...	...	Clear
.125	2.97	3.073	30410	8.1	...	...	...	Clear
.008	2.64	2.646	26140	5.4	...	...	...	Clear
1.650	5.50	6.853	68210	11.2	...	...	...	Clear
.240	11.99	12.188	121560	39.8	...	...	...	Clear
.005	6.05	6.054	60220	22.1	...	...	...	Clear
.004	5.72	5.723	56910	23.1	...	...	...	Clear
.005	.66	.664	6320	5.0	...	...	...	Clear
.400	5.72	6.050	60280	17.7	...	...	...	Clear
1.020	11.22	12.059	120270	29.5	...	...	...	Clear
.530	18.70	19.135	191030	44.4	...	...	...	Turbid

TABLE XV.—

Date of Receipt of Sample.	DESCRIPTION.	Temp. C	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
1878.	WELL WATERS—(continued).				
May 7th	8 Court, Vale Street ... ..	...	259.0	...	...
" "	8 Court, Dudley Street ... ..	...	153.0	...	...
" "	7 and 8, Phillips Street (Diarrhoea) ...	...	116.0	...	rather large
" 8th	3 Court, Angelina Street ... ..	...	158.6	...	very large
" "	36 and 37, Ledsam Street ... ..	...	161.4	...	"
" "	156 and 157, Ledsam Street... ..	...	55.0	...	very large
" "	14 Court, Darwin St. (Scarlet Fever)	...	126.0	...	"
" "	15 Court, New Bartholomew Street...	...	101.0	...	...
" "	16 Court, New Bartholomew Street..	...	147.0	...	..
" 13th	Cottage Row, Bridge Street West ...	...	141.0	...	...
" "	70—71, Bridge Street West (Diarrhoea)	...	139.4	...	...
" 14th	5 Court, Little Ann Street ... ..	...	184.0	...	...
" "	2—10, Little Ann Street ... ..	...	108.0	...	...
" "	Back 43, Horse Fair ... ..	...	155.0	...	very large
" "	6 and 7, Cross Street... ..	...	186.0	...	"
" 17th	369 and 370, Pershore Road... ..	...	109.0	...	...
" "	377 and 378, Pershore Road... ..	...	87.4	..	...
" "	6 Court, Inge Street ... ..	...	290.0	...	...
" "	12 Court, Inge Street... ..	...	125.0	...	very large
" "	1 and 2 Courts, Pigott Street ... ..	...	207.0	...	...
" "	58—62, Smallbrook Street ... ..	...	209.0	...	...
" 22nd	33—35, Gough Road... ..	...	119.0	...	very large
" "	40 Court, Sherlock Street ... ..	...	114.4	...	...
" "	11 Court, Kent Street, and 30 Court, Gooch Street ... ..	...	182.0	...	very large
" "	6 Court, Hurst Street ... ..	...	144.0	...	large
" "	8 Court, Hill Street (Scarlet Fever) ...	..	181.0	...	very large
" 25th	357 and 358, Pershore Road... ..	...	143.6	...	"
" "	64 and 65, Bath Row ... ..	..	71.0	...	"
" "	66 and 67, Bath Row ... ..	...	65.4	...	"
" "	467 and 468, Park Road ( <sup>Whooping</sup> Cough) ... ..	...	128.0	...	"
" "	89 and 90, Talbot Street (Diarrhoea)	...	108.0	...	moderate
" "	3 Court, Pershore Street ... ..	...	59.0	...	"
" "	15 Court, Navigation Street ... ..	...	186.0	...	very large
" 29th	87, Coventry Road (Typhoid) ... ..	...	95.0	...	"
" "	82 and 83, Friston Street ... ..	...	112.0	...	"
" "	2 Court, Baker Street... ..	...	170.0	...	...
" "	19 and 20, Hagley Road ... ..	...	35.0	...	...
" "	180, Hagley Road ... ..	...	67.0	...	very large
" "	4 Court, Holloway Head ... ..	...	126.0	...	large
June 6th	104, Warwick Street, and 19 Court, Alcester Street (Typhoid)... ..	...	197.0	...	...
" "	47 and 48, Princess Road ... ..	...	72.0	...	...
" "	7, Varna Road ... ..	...	135.0	...	very large
" "	247—250, Bradford Street ... ..	...	157.0	...	"
" "	Paget's Buildings, Baker St. ( <sup>Diphtheria</sup> )	...	146.6	...	"
" "	12—15, Dawson Street (Typhoid) ...	...	154.0	...	...
" 7th	43 and 44, Thorp Street ... ..	...	161.0	...	large
" "	3 and 4, Edgbaston Street ... ..	...	148.0	...	...
" "	9 Court, Charles Henry Street ... ..	...	201.0	...	...
" "	93, Smallbrook Street ... ..	...	103.0	...	large

(continued.)

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contam- ination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor- ary.	Perman- ent.	Total.	
·420	9·35	9·696	96640	44·2	...	...	...	Clear
·425	5·06	5·410	53880	30·1	...	...	...	Clear
·014	3·52	3·531	34990	12·7	...	...	...	Clear
·006	2·42	2·425	23930	10·7	...	...	...	Clear, with many sus- pended particles
·007	8·14	8·146	81140	22·3	...	...	...	Clear
·012	1·65	1·660	16280	6·5	...	...	...	Clear
·009	3·30	3·307	32750	8·7	...	...	...	Clear
·030	1·32	1·567	15350	5·9	...	...	...	Clear
·035	4·62	4·910	48780	20·0	...	...	...	Clear
·125	4·62	4·623	45910	15·0	...	...	...	Clear
1·800	4·84	6·322	62900	11·8	...	...	...	Clear
·045	2·20	2·237	22050	21·8	...	...	...	Clear
·020	1·54	1·556	15240	10·5	...	...	...	Clear
·008	6·60	6·606	65740	17·6	...	...	...	Turbid
·003	5·50	5·502	54700	37·0	...	...	...	Clear
·050	3·74	3·781	37490	10·3	...	...	...	Turbid
·450	2·53	2·900	28680	4·2	...	...	...	Clear
1·600	12·65	13·967	139350	33·7	...	...	...	
·011	7·70	7·709	76770	18·0	...	...	..	Clear
·004	7·81	7·813	77810	27·5	...	...	...	Clear
1·100	6·93	7·835	78020	29·9	...	...	...	Clear
·012	2·86	2·870	28380	9·1	...	...	...	Clear
1·500	3·30	4·530	44980	14·5	...	...	..	Clear
·010	5·06	5·068	50360	26·0	...	...	...	Clear
·006	5·50	5·505	54730	20·5	...	...	...	Clear
·013	6·16	6·171	61390	24·6	...	...	...	Clear
·005	3·85	3·854	38220	6·4	...	...	...	Clear
·005	3·30	3·304	32720	6·1	...	...	...	Clear
·007	3·41	3·416	33840	5·9	...	...	...	Clear
·006	7·15	7·155	71230	17·3	...	...	...	Clear
·011	3·52	3·529	34970	12·2	...	...	...	Clear
·004	1·10	1·103	10710	5·0	...	...	...	Clear
·005	4·40	4·404	43720	34·0	...	...	...	Clear
·008	2·75	2·757	27250	7·6	...	...	...	Numerous suspended particles
·003	6·60	6·602	65700	12·7	...	...	...	Clear
3·000	4·18	6·643	66110	19·9	...	...	...	Clear
·017	0·44	0·454	4220	2·8	...	...	...	Clear
·010	1·54	1·548	15160	4·2	...	...	...	Clear
·004	2·31	2·313	22810	24·0	...	...	...	Clear
·017	4·95	4·964	49320	23·6	...	...	...	Clear
·400	·11	·439	4070	6·0	...	...	...	Turbid
·010	5·61	5·618	55860	7·3	...	...	...	Clear
·012	6·16	6·170	61380	17·6	...	...	...	Clear
·010	6·05	6·058	60260	11·8	...	...	..	Clear
·030	6·27	6·295	62630	15·9	...	...	...	Clear
·002	6·71	6·712	66800	24·0	...	...	...	Clear
·420	5·50	5·846	58140	26·5	...	...	...	Clear
·600	4·95	5·394	53620	17·9	...	...	...	Clear
·009	4·29	4·297	42650	13·3	...	...	...	Clear



TABLE. XV.—

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
1878.	WELL WATERS—(continued).				
June 8th	13—17, Angelina Street ...	...	99·6	...	very large
" "	1 Court, Ryland Street ...	...	218·0	...	"
" 13th	13 Court, Inkerman Street ...	...	175·0	...	"
" "	108 and 109, Inkerman Street ...	...	116·0	...	...
" "	9, Argyle Street ...	...	70·0	...	...
" "	17, Argyle Street ...	...	124·0	...	...
" "	155, Argyle Street ...	...	466·0	...	very large
" "	164, Argyle Street ...	...	56·0	...	"
" 14th	6, Adelaide Street ...	...	229·0	...	"
" "	8 Court, Lombard Street ...	...	180·0	...	"
" "	149, Vaughton Street... ..	...	105·0	...	moderate
" "	221, Alcester Street ...	...	265·0	...	large
" "	5 and 6, Edgbaston Street ...	...	108·6	...	...
" "	37—39½, Upper Dean Street, and 77,	...	92·0	...	...
" 19th	40—49, Aston Road (Measles) ...	...	276·0	...	...
" "	73 and 74, Caroline Street ...	...	104·0	...	large
" "	5, Alcester Street ...	...	329·0	...	...
" "	16 and 17 Courts, Alcester St. (Scarlet Fever) ...	...	206·0	...	very large
" "	Back 71 and 72, South Road (Typhoid) ...	...	123·6	...	"
" "	83—87, Emily Street ...	...	96·0	...	"
" 21st	26 Court, Tower Street ...	...	145·0	...	...
" "	10 and 11 Courts, Lower Hospital St. ...	...	90·0	...	very large
" "	10 and 11, Cuckoo Road ...	...	108·0	...	"
" "	12 and 13, Cuckoo Road (Scarlet Fever) ...	...	78·0	...	"
" "	285 and 286, Heath Street ...	...	148·6	...	...
" "	294, Heath Street ...	...	92·0	...	...
" 25th	74, Ford Street ...	...	113·0	...	...
" "	6 Court, Clarke Street ...	...	94·0	...	...
" "	Cambridge Place, Freeth Street ...	...	117·0	...	very large
" "	454 and 455, Park Road (Scarlet Fever) ...	...	141·0	...	"
" "	2 Court, and No. 11, Sherlock Street ...	...	166·6	...	...
" "	91, Varna Road ...	...	146·0	...	...
" 27th	64½ and 65, Well Street ...	...	113·0	...	...
" "	3, Princess Road ...	...	179·0	...	...
" "	4 and 5, Princess Road ...	...	183·0	...	...
" "	2 and 3 Courts, Blucher Street ...	...	188·0	...	...
" "	8 Court, Bridge Street West... ..	...	59·6	...	...
" "	The Birchlands, Westfield Road ...	...	70·0	...	very large
July 1st	80 and 81, Summer Road ...	...	171·0	...	large
" "	4 Court, Miles Street (top pump) ...	...	112·0	...	...
" "	4 Court, Miles Street (bottom pump) ...	...	135·0	...	...
" "	134 and 135, Aberdeen Street (Scarlet Fever) ...	...	131·0	...	...
" "	203 and 204, Icknield Port Rd. (Scarlet Fever) ...	...	122·0	...	very large
" "	82 and 84, Gough Road ...	...	100·0	...	"
" 5th	91 and 92, Pershore Street, and 33 and 34, Bromsgrove Street ...	...	205·0	...	...
" "	11 Court, Bromsgrove Street, and 54, Essex Street ...	...	196·0	...	...
" "	39 Court, Cheapside (Whooping Cough) ...	...	183·0	...	...
" "	15 Court, Alcester Street (Scarlet Fever) ...	...	147·0	...	large

(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contam- ination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor- ary.	Perman- ent.	Total.	
·008	1·32	1·327	12950	6·8	...	...	...	
·009	2·86	2·867	28350	18·3	...	...	...	Clear
·005	9·02	9·024	89920	16·3	...	...	...	Turbid
·610	6·71	7·212	71800	11·3	...	...	...	Clear
·090	1·21	1·284	12520	4·5	...	...	...	Clear
·150	2·31	2·433	24010	10·2	...	...	...	Clear, yellowish
·003	·66	·662	6300	2·0	...	...	...	Clear
·007	1·10	1·106	10740	2·3	...	...	...	Many suspended particles
·004	6·05	6·053	60210	32·5	...	...	...	Clear
·003	7·15	7·152	71200	14·0	...	...	...	Clear
·003	2·31	2·312	22800	11·5	...	...	...	Clear
·003	9·13	9·132	91000	40·5	...	...	...	Clear
·150	4·18	4·303	42710	18·0	...	...	...	Clear
·250	·66	·806	7740	12·3	...	...	...	Clear
1·300	trace	1·070	10380	48·0	...	...	...	Slightly turbid
·014	6·60	6·611	65790	11·8	...	...	...	Clear
·300	13·20	13·447	134150	59·8	...	...	...	Slightly turbid
·003	6·05	6·052	60200	8·4	...	...	...	Clear
·004	1·76	1·763	17310	23·6	...	...	...	Clear
·015	1·98	1·992	19600	6·9	...	...	...	Clear
·070	9·02	9·078	90460	26·0	...	...	...	Clear
·006	2·75	2·755	27230	10·7	...	...	...	Clear
·004	·88	·883	8510	7·0	...	...	...	Clear
·003	3·52	3·522	34900	3·8	...	...	...	Clear
·150	8·03	8·153	81210	19·0	...	...	...	Clear
·200	3·30	3·465	34330	6·2	...	...	...	Clear
·650	6·82	7·351	73190	13·9	...	...	...	Clear
2·000	0·77	2·417	23850	5·2	...	...	...	Clear, residue brown
·008	4·95	4·957	49250	11·5	...	...	...	Clear
·007	7·37	7·376	73440	11·9	...	...	...	Clear
3·200	4·95	7·585	49250	22·5	...	...	...	Clear
·019	2·09	2·106	20740	10·5	...	...	...	Clear, yellow
·013	4·73	4·742	47100	7·5	...	...	...	Clear
·250	5·17	5·376	53440	9·9	...	...	...	Clear
·260	5·06	5·274	52420	10·0	...	...	...	Clear
·020	8·58	8·596	85640	21·0	...	...	...	Clear
·005	1·65	1·654	16220	9·1	...	...	...	Clear
·003	1·76	1·762	17300	2·6	...	...	...	Clear
·350	8·47	8·758	87260	14·8	...	...	...	Clear
1·000	2·53	3·353	33210	12·0	...	...	...	Clear
·700	3·74	4·320	42880	11·6	...	...	...	Clear
2·500	6·27	8·329	82970	12·5	...	...	...	Clear
·009	6·60	6·606	65750	14·2	...	...	...	Clear
·010	1·76	1·768	17360	8·0	...	...	...	Clear, greenish
·500	8·25	8·660	86280	25·0	...	...	...	
1·200	6·27	7·258	72260	26·5	...	...	...	
·800	1·76	2·420	23980	23·5	...	...	...	
·003	2·31	2·312	22800	9·5	...	...	...	

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
1878.	WELL WATERS—(continued).				
July 8th	29 Court, Summer Lane (Scarlet Fever)	...	172·6	...	very large
" "	15 Court, New John St. West (Fever)	...	224·0	...	...
" 9th	140 and 141, Varna Road ...	...	194·0	...	very large
" "	142, Varna Road ...	...	198·0	...	"
" "	120 & 121, Greenway Street (Typhoid)	...	124·0	...	"
" "	122—124, Greenway Street (Typhoid)	...	133·0	...	"
" "	13—15, Braithwaite Rd. (Scarlet Fever)	...	80·6	...	"
" "	50 and 51 Priestley Road ...	...	63·0	...	rather large.
" 11th	32 and 40, Summer Road (Whooping Cough) ...	...	82·0	...	very large
" "	1 Court, Sun Street ...	...	198·0	...	large
" 12th	45—48, Bloomsbury Place ...	...	183·0	...	very large
" "	Prospect Place, Holborn Hill (Diarrhœa)	...	151·0	...	..
" "	57 and 58, Varna Road ...	...	101·6	...	very large
" "	6 and 7, Spring Vale (Diarrhœa) ...	...	170·0	...	"
" 17th	440 and 441, Coventry Road ...	..	85·0	...	"
" 18th	Sent by Mr. Councillor Tait from Children's Hospital ...	...	72·0	...	"
" "	46 and 47, Priestley Road ...	..	57·0	...	"
" "	40 and 41, Friston street (Diarrhœa)	...	58·0	...	moderate
" "	44 Court, Bell Barn Road, and Oxford Place, Bell Barn Road (Typhoid)	...	149·0	...	"
" "	10 Court, Darwin Street (Typhoid) ...	...	129·0	...	large
" "	119, Digbeth (Typhoid) ...	...	289·0	...	"
" 19th	2 Court, Benacre Street ...	...	158·0	...	...
" "	14 and 15, Balsall Heath Road ...	...	88·0	...	...
" "	18 and 19, Balsall Heath Road ...	...	80·0	...	very large
" "	142, Bromsgrove St. (Whooping Cough)	...	158·0	...	moderate
" "	4 and 5, Johnstone Street ...	...	61·0	...	...
" "	56 and 57, Johnstone Street... ..	...	77·0	...	rather large.
" 23rd	15½, Caroline Street ...	...	176·0	...	very large
" "	75, Brearley Street West (Scarlet Fever)	...	177·0	...	...
" "	19 Court, Bradford Street ...	...	164·0	...	large
" "	4 and 5, Leopold Street ...	...	115·0	...	"
" "	56, Newtown Row ...	...	209·0	...	very large
" "	"The Cottage," Richmond Hill Road	...	45·0	...	"
" 26th	1 Court, Inkerman Street ...	...	170·0	...	"
" "	2 Court, Inkerman Street ...	...	166·0	...	"
" "	3 Court, Inkerman Street ...	...	162·0	...	"
" "	6 and 7, New Vauxhall Terrace, Duddeston Mill Road ...	...	75·0	...	large
" 27th	52 and 53, Stratford Road ...	...	76·0	...	very large
" "	165—169, Moseley Street ...	...	235·0	...	"
" "	17—24, New Church Street (Scarlet Fever) ...	...	192·0	...	large
" 30th	32 & 33, Bell Barn Road (Scarlet Fever) ...	...	132·0	...	...
" "	3 and 4, Hooper Street, and 12 and 13, Dudley Road ...	...	130·0	...	...
" "	114, Hope Street, and 25 Court, Hope Street (Scarlet Fever) ...	...	199·0	...	...
" "	Back 128, Spring Hill ...	...	273·0	...	...
" "	1 Court, Brearley Street, and 40 Court, Newtown Row ...	...	171·0	...	large



(continued).

Ammonia	Nitrogen as Nitrates, and Nitrites	Total Combined Nitrogen.	Previous Sewage or Animal Contam- ination (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor- ary.	Perman- ent.	Total.	
·003	4·29	4·292	42600	29·5	...	...	...	
1·200	7·70	8·688	86560	21·3	...	...	...	Clear
·008	4·40	4·406	43740	10·0	...	...	...	Clear
·008	5·06	5·066	50340	10·5	...	...	...	Clear
·004	5·50	5·503	54710	15·0	...	...	...	Clear
·004	6·49	6·493	64610	13·8	...	...	...	Clear
·003	1·21	1·212	11800	5·2	...	...	...	Clear
·005	1·43	1·434	14020	4·5	...	...	...	Clear
·005	3·85	3·854	38220	6·2	...	...	...	Clear
·001	7·70	7·701	76690	20·0	...	...	...	Clear
·003	5·50	5·502	54700	17·8	...	...	...	Clear
1·500	3·56	4·860	48280	29·6	...	...	...	Clear
·006	1·87	1·875	18430	25·0	...	...	...	Clear
·005	1·54	1·544	15120	25·0	...	...	...	Clear
·007	1·98	1·985	19530	5·8	...	...	...	Clear
·004	1·87	1·873	18410	5·5	...	...	...	Turbid
·006	1·56	1·655	16230	3·5	...	...	...	Clear
·004	2·75	2·753	27210	7·8	...	...	...	Clear
·005	8·80	8·804	87720	15·9	...	...	...	Clear
·004	1·98	1·980	19510	8·3	...	...	...	Clear
·003	5·50	5·502	54700	57·0	...	...	...	Clear
·500	2·53	2·940	29080	13·3	...	...	...	Clear
·035	2·75	2·771	27470	6·1	...	...	...	Clear
·006	1·43	1·435	14030	4·8	...	...	...	Clear
·018	6·05	6·065	60330	19·5	...	...	...	Clear
·050	1·87	1·911	18790	4·0	...	...	...	Clear
·003	2·42	2·422	23800	7·5	...	...	...	Clear
·005	10·34	10·344	103120	26·6	...	...	...	Turbid
·060	8·80	8·849	88170	24·7	...	...	...	Clear
·005	5·61	5·614	55820	16·3	...	...	...	Clear
·007	2·53	2·536	25040	10·3	...	...	...	Clear
·006	8·69	8·695	86630	27·0	...	...	...	Clear
·007	1·43	1·435	14030	3·6	...	...	...	Clear
·004	8·80	8·803	87710	18·0	...	...	...	Clear
·004	8·38	8·363	83310	17·0	...	...	...	Clear
·004	7·92	7·923	78910	16·0	...	...	...	Clear
·005	3·52	3·524	34920	9·4	...	...	...	Clear
·005	2·42	2·424	23920	4·6	...	...	...	Clear
·006	6·71	6·715	66830	39·0	...	...	...	Clear
·004	6·93	6·933	69010	23·7	...	...	...	Clear
·050	4·40	4·441	44190	13·1	...	...	...	Clear
·200	6·60	6·765	67330	19·9	...	...	...	Clear
·045	·66	·697	6650	28·8	...	...	...	Turbid
3·000	15·40	17·869	178370	32·7	...	...	...	Clear
·012	8·25	8·260	82280	28·8	...	...	...	Clear

TABLE XV.—

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
1878.	WELL WATERS—(continued).				
July 31st	170, Green Lane (Diphtheria) ...	...	76·0	...	very large
" "	71—76, Millward Street ...	...	36·0	...	large
Aug. 1st	Back 11, Parliament St. (Scarlet Fever) ...	...	100·0	...	very large
" "	Back 12, Parliament St. (Scarlet Fever) ...	...	99·0	...	"
" "	Brookfield Place, New Spring Street... ..	...	167·0	...	"
" "	141—144, New Spring Street ...	...	131·0	...	large
" 6th	13 and 14 Courts, New Town Row ...	...	164·0	...	very large
" "	32 Court, Irving Street (Diarrhœa) ...	...	136·6	...	"
" "	33 Court, Lower Tower Street (Whooping Cough) ...	...	174·0	...	...
" "	134, Varna Road (Diarrhœa)... ..	...	143·0	...	very large
" 7th	5 Court, Little Ann Street ...	...	179·0	...	...
" "	14, Oxford Street ... ..	...	242·0	...	very large
" 9th	94 & 95, Hingeston St. (Scarlet Fever) ...	...	53·0	...	rather large
" "	73—76, Main Street (Diarrhœa) ...	...	132·6	...	very large
" "	22 and 23, Erasmus Road, and 51—54, Auckland Road ...	...	78·0	...	...
" "	42—44, Lower Camden Street (Scarlet Fever) ...	...	89·0	...	very large
" "	57 and 58, Erasmus Road ... ..	...	89·0	...	"
" "	59 and 60, Erasmus Road ... ..	...	77·0	...	"
" 14th	16 Court, Great Barr St. (Diarrhœa) ...	...	289·0	...	...
" "	5 Court, Floodgate Street (Diarrhœa) ...	...	228·0	...	...
" "	Alma Place, Turner St. (Scarlet Fever) ...	...	98·0	...	very large
" "	52 and 53, Larches St. (Scarlet Fever) ...	...	179·0	...	"
" "	32, Camp Hill (Scarlet Fever) ...	...	168·0	...	"
" "	29—31, Braithwaite Road ... ..	...	102·0	...	"
" 21st	21—23, Bordesley Park Rd. (Typhoid) (1st Pump) ...	...	131·0	...	"
" "	21—23, Bordesley Park Rd. (Typhoid) (2nd Pump) ...	...	178·0	...	...
" "	Ladybird Terrace, Greenway St. (Typhoid) ...	...	122·0	...	very large
" "	66 and 67, White Road ... ..	...	31·0	...	"
" 22nd	20—24, Darwin Street (Scarlet Fever) ...	...	155·0	...	"
" "	Brompton Place, Larches St. (Typhoid) ...	...	84·6	...	"
" 26th	Alma Place, Turner Street (Soft Water Pump) ...	...	5·0	...	...
" "	Salford Place, Turner Street ... ..	...	80·0	...	very large
" "	Astwood Place, Turner Street ...	...	116·0	...	...
" "	25 Court, Moseley Street (Diarrhœa) ...	...	252·0	...	...
" "	167—172, Alcester Street ... ..	...	181·0	...	very large
" "	5 Court, Bordesley Park Road ... ..	...	64·0	...	"
" 30th	14 and 15, Dymoke Street (Typhoid) ...	...	252·0	...	"
" "	21 and 22, Dymoke St. (Scarlet Fever) ...	...	110·0	...	"
" 31st	15 Court, Great Barr St. (Scarlet Fever) ...	...	284·0	...	"
" "	9—11, Coventry Street ... ..	...	329·0	...	...
" "	Gladstone Terrace, South Road ... ..	...	100·0	...	...
" "	16 Court, Allison Street ... ..	...	50·0	...	very large
Sept. 4th	Thomason's Buildings, and No. 49, Heath Street (Typhoid) ...	...	54·0	...	...
" "	Rotton Park Terrace, and Helena Terrace, Osler Street ... ..	...	58·0	...	very large
" "	97 and 98, Irving Street (Diarrhœa)... ..	...	106·0	...	"
" "	1 Court, Manchester St. (Scarlet Fever) ...	...	247·0	...	...

(continued.)

Ammonia	Nitrogen as Nitrates and Nitrites.	Total combined Nitrogen.	Previous Sewage or Animal Contam- ination (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor- ary.	Perman- ent.	Total.	
·012	1·87	1·884	18520	7·5	..	...	...	Slightly turbid
·005	1·43	1·434	14020	2·2	...	...	...	Clear
·006	5·06	5·065	50330	8·5	...	...	...	Clear
·005	2·53	2·534	25020	6·8	...	...	...	
·011	8·25	8·259	82270	11·7	...	...	...	
·013	6·71	6·720	66880	11·9	...	...	...	
·007	6·05	6·056	60240	12·5	...	..	...	Clear
·004	6·80	6·823	67910	17·0	...	...	...	Clear
·026	8·80	8·281	87890	23·9	...	...	...	Clear
·007	1·76	1·766	16340	13·4	...	..	...	Clear
·210	2·86	3·033	30310	25·9	...	...	...	Clear
·006	2·86	2·865	28330	24·7	...	...	...	Clear
·007	1·43	1·436	14040	3·7	...	...	...	Clear
·012	6·05	6·460	60280	11·7	...	...	...	Clear
·035	2·57	2·779	27470	7·4	...	...	...	Clear
·005	2·97	2·977	29459	9·9	...	...	...	Clear
·009	2·97	2·977	29450	8·4	...	...	...	Clear
·050	1·76	1·801	17690	5·8	...	...	...	Clear
·050	4·40	4·441	44090	34·0	...	...	...	Clear
·035	2·20	2·229	21970	32·7	...	...	...	Clear
·006	3·45	3·855	38230	11·2	...	...	...	Clear
·005	7·04	7·044	70120	16·3	...	...	...	Clear
·002	6·05	6·052	60210	18·3	...	...	...	Clear
·003	·88	·882	8500	4·6	...	...	...	Clear
·004	1·54	1·543	15110	10·0	...	...	...	Clear, yellowish
·100	2·20	2·282	22500	18·5	...	...	...	Clear
·009	5·83	5·837	58050	14·2	...	...	...	Clear
·004	·55	·553	5210	1·1	...	...	...	Clear
·003	1·65	1·652	16200	25·3	...	...	...	Clear
·003	2·75	2·752	27210	8·4	...	...	...	Clear
·250	trace	·206	1740	0·4	...	...	...	Clear
·006	1·76	1·765	17330	6·3	...	...	...	Clear
·030	5·28	5·305	52730	11·2	...	...	...	Clear
2·200	2·53	4·335	43030	18·0	...	...	...	Clear
·008	7·70	7·706	76730	14·0	...	...	...	Clear
·005	·66	·664	6320	3·9	...	...	...	Clear
·010	5·64	5·948	59160	19·1	...	...	...	Turbid
·009	2·09	2·097	20650	7·0	...	...	...	Clear
·005	5·28	5·284	52520	38·6	...	...	...	Clear
1·200	8·25	9·238	92060	86·5	...	...	...	Clear
·016	1·43	1·453	14110	7·4	...	...	...	
·010	1·32	1·328	12960	5·1	...	...	...	
·190	1·32	1·476	14440	9·9	...	...	...	
·009	1·87	1·877	18450	8·1	...	...	...	
·008	4·95	4·956	49240	11·3	...	...	...	
·500	7·15	7·560	75280	56·5	...	...	...	



TABLE XV.—

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
1878.	WELL WATERS—(continued).				
Sep. 9th	5 Court, New John Street West (Scarlet Fever)	...	134.0	...	very large
" "	5 Court, Vere Street (Typhoid)	...	185.0	...	"
" 10th	2 Court, Mount St., Deritend (Typhoid)	...	114.0	...	moderate
" "	105 and 106, Bristol Street ...	...	142.0	...	very large
" "	4 Court, Warwick Street (Typhoid)...	...	188.0	...	"
" "	10 and 11, Little King Street, and 32 Court, New John St. West (Scarlet Fever)	...	115.0	...	"
" "	11 Court, and 18, Well St. (Scarlet Fever and Diarrhoea)	...	103.0	...	...
" "	46 Court, Bell Barn Road ...	...	159.0	...	...
" 13th	41 Court, Newtown Row (Diarrhoea)	...	229.0	...	...
" "	438 & 439, New John St. West (Scarlet Fever)	...	124.0	...	very large
" "	8—12, Whitmore Street (Diphtheria)	...	108.0	...	"
" "	Tichborne Place, and Castro Place, Ford Street (Scarlet Fever) ...	...	104.0	...	...
" "	3 Court, Farm Street (Scarlet Fever)	...	91.0	...	large
" "	11 Court, Farm Street (Scarlet Fever)	...	101.0	...	very large
" 17th	55 and 56, Chattaway Street...	...	125.0	...	very large
" "	205 and 206, Watery Lane (Scarlet Fever and Diarrhoea)	...	125.0	...	...
" "	168—174, Well Street ...	...	148.6	...	very large
" "	7 and 8, Great Barr Street ...	...	288.0	...	"
" "	26 Court, Gt. Russell St. (Diarrhoea)	...	85.0	...	...
" "	3 Court, Oliver Street (Diarrhoea) ...	...	150.0	...	very large
" 20th	42 and 43, Bristol Road ...	...	102.0	...	large
" "	18 and 19, Kent Street (Typhoid) ...	...	120.0	...	...
" "	40 and 41 Courts, Spring Street ...	...	106.6	...	moderate
" 21st	2 Court, Vaughton Street ...	...	141.0	...	...
" "	6 Court, Highgate Street ...	...	169.0	...	large
" "	7 Court, Highgate Street ...	...	209.0	...	very large
" 24th	24—29, Anderton Road (Small Pox)	...	154.0	...	...
" "	46 and 47, Price Street (Scarlet Fever)	...	192.0	...	very large
" "	25 Court, Hatchett Street (Diarrhoea)	...	164.6	...	large
" "	33—36, Lawden Road (Diarrhoea) ...	...	162.0	...	...
" "	26 & 27, Sampson Rd. North (Diarrhoea)	...	61.0	...	very large
" "	130—132, Bordesley Park Road ...	...	72.0	...	"
" 26th	46 and 47, Ryland Street (Diarrhoea)	...	122.0	...	"
" "	16 Court, Thorp Street (Diarrhoea) ...	...	162.0	...	"
" "	41—45, Johnson Street ...	...	136.6	...	...
" "	46—49, Johnson Street ...	...	120.0	...	very large
" "	Magenta Place, Winson Green Road (Scarlet Fever) ...	...	88.0	...	...
" "	6 & 7 Courts, Vaughton St. (Diarrhoea)	...	137.0	...	very large
Oct. 1st	10 Court, Adelaide Street (Diarrhoea)	...	223.0	...	very large
" "	54, Lancaster Street ...	...	270.0	...	"
" "	63—67, Great Barr Street (Scarlet Fever)	...	334.0	...	...
" "	34 Court, Cheapside (Scarlet Fever) ...	...	206.0	...	very large
" "	254—258, Park Road (Diphtheria) ...	...	146.0	...	...
" "	36—43, Lower Dartmouth St. (Scarlet Fever)	...	162.0	...	...
" 3rd	32 Court, Irving Street ...	...	132.0	...	very large
" "	Houses occupied by Shaw and Pardoe, Dudley Road ...	...	80.0	...	...
" "	Houses occupied by Goodacre and Brindley, Dudley Road ...	...	80.6	...	large

(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contamin- ation. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor- ary.	Perman- ent.	Total.	
·005	6·60	6·604	65720	21·1	...	...	...	
·007	3·08	3·085	30520	26·9	...	...	...	Clear
·002	2·64	2·641	26190	13·5	...	...	...	Clear
·004	2·75	2·753	27210	12·6	...	...	...	Clear
·005	3·19	3·194	31620	18·8	..	...	...	Clear
·004	6·27	6·273	62410	14·0	...	...	...	Turbid
·020	4·40	4·416	43840	16·9	...	..	...	Clear
·410	5·50	5·388	58060	15·8	...	...	...	Clear
·800	11·00	11·660	116380	35·5	...	...	...	Clear
·005	6·16	6·164	61320	19·2	...	...	...	Clear
·008	6·60	6·606	65740	10·7	...	...	...	Slightly turbid
·250	6·93	7·136	71040	14·9	...	...	...	Clear
·004	4·29	4·293	42610	7·1	...	...	...	Clear
·009	4·40	4·407	43750	11·7	...	...	...	Clear
·003	4·95	4·952	40200	4·4	...	...	...	Clear
·060	·44	·489	4570	9·3	...	...	...	Clear
·005	7·92	7·924	78920	20·5	...	...	...	Clear
·003	7·15	7·152	71200	39·5	...	...	...	Clear
·025	1·65	1·670	16380	11·5	...	...	...	Clear
·005	4·40	4·404	43720	13·5	...	...	...	Clear
·002	1·65	1·651	16190	6·4	...	...	...	Clear
2·000	·44	2·080	20480	19·0	...	...	...	Clear
·004	5·50	5·503	54710	13·4	...	...	...	Clear
·300	1·43	1·677	16450	13·8	...	...	...	Clear
·003	4·95	4·952	49200	15·4	...	...	...	Clear
·004	7·48	7·483	74510	20·5	...	...	...	Clear
1·650	7·70	9·058	90260	12·6	...	...	...	Clear
·015	3·20	3·212	31800	29·2	...	...	...	Clear
·007	9·46	9·466	94340	22·7	...	...	...	Clear
·520	3·96	4·388	43560	10·7	...	...	...	Clear
·005	1·54	1·544	15120	7·0	...	...	...	Clear
·015	1·32	1·330	13000	3·1	...	...	...	Clear
·005	3·08	3·084	30520	9·0	...	...	...	Clear
·008	7·48	7·486	74540	29·0	...	...	...	Clear
·450	4·40	4·771	47390	10·0	...	...	...	Clear
·006	3·08	3·085	30520	10·6	...	...	...	Clear
1·200	3·85	4·838	48060	14·3	...	...	...	Clear
·007	2·75	2·756	27240	12·6	...	...	...	Clear
·006	9·35	9·355	93230	29·5	...	...	...	Clear
·009	7·15	7·157	71250	47·5	...	...	...	Clear
1·030	9·35	10·198	101660	46·3	...	...	...	Clear
·008	9·90	9·907	98750	25·0	...	...	...	Clear
·735	5·50	6·109	60770	16·2	...	...	...	Clear
·018	7·15	7·165	71330	19·2	...	...	...	Clear
·008	8·80	8·807	87750	16·6	...	...	...	Clear
3·400	2·75	5·880	58480	11·7	...	...	...	Very turbid, yellow, ocour of sewage
·008	5·28	5·286	52540	10·0	...	...	...	Clear

TABLE XV.—

Date of Receipt of Sample.		DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.
1878.		WELL WATERS—(continued).				
Oct.	3rd	6—8, Great Colmore Street ...	...	108·0	...	very large
"	4th	10 Court, Devon Street ...	...	67·0	...	rather large
"	"	36 and 37, Devon Street ...	...	60·0	...	very large
"	8th	121—125, Heneage St. (Scarlet Fever)	...	164·0	...	...
"	"	Bk. 56 & 57, Railway Terrace, Nechells	...	90·0	...	large
"	"	345—350, Nechells Park Road ...	...	69·6	...	"
"	"	54 and 55, Stratford Road (Typhoid)	...	106·0	...	very large
"	"	12 and 13, Adelaide Street, Vauxhall	...	103·0	...	"
"	"	65—72, Highgate Lane (Typhoid) ...	...	102·0	...	"
"	14th	5 and 6, Wordsworth Road ...	...	136·0	...	very large
"	"	14 and 15, Winson Green Road ...	...	120·0	...	...
"	"	12 and 13, Winson Green Road ...	...	106·6	...	very large
"	"	170, Green Lane ...	...	80·0	...	"
"	15th	2 Court, Oughton Place (Scarlet Fever)	...	274·0	...	large
"	"	32 and 33, Ladypool Lane ...	...	268·0	...	...
"	17th	Kelynge Terrace, Kelynge Street ...	...	76·0	...	rather large
"	"	Hanley Terraces, Kelynge Street (Scarlet Fever)	...	68·0	...	large
"	"	107 & 108, Ryland St. North (Diarrhoea)	...	140·6	...	very large
"	"	27, Navigation Street ...	...	294·0	...	"
"	"	39—41, Parker Street, and back 24, Bellis Street (Typhoid) ...	...	109·0	...	...
"	"	Back 52, Garrison Lane (Scarlet Fever)	...	191·0	...	excessive
"	28th	108 & 109, New John St. West (Scarlet Fever)	...	132·0	...	...
"	"	22, Court Well Street (Typhoid) ...	...	109·0	...	...
"	"	311 and 312, Monument Road ...	...	87·6	...	...
"	"	Noah's Buildings, Wheeley's Lane ...	...	164·0	...	...
"	31st	303, Pershore Road ...	...	69·0	...	very large
"	"	390, Bristol Road ...	...	133·0	...	"
Nov.	1st	36 Court, Newtown Row (Scarlet Fever)	...	140·0	...	large
"	"	103, Steelhouse Lane (Typhoid) ...	...	192·0	...	very large
"	"	93—95, Floodgate Street ...	...	271·6	...	...
"	"	1 Court, Meriden St., <sup>top</sup> pump (Scarlet Fever)	...	90·0	...	very large
"	"	3 Court, Meriden St. (Scarlet Fever)	...	25·0	...	...
"	"	1 Court, Meriden Street, <sup>bottom</sup> pump (Scarlet Fever)	...	112·0	...	...
"	6th	12 and 13, Rodway St. (Scarlet Fever)	...	68·0	...	very large
"	"	16 Court, Smith Street (Scarlet Fever)	...	232·0	...	...
"	"	31—34, Ormond Street (Scarlet Fever)	...	208·6	...	very large
"	"	21 and 22, Cathcart Street (Typhoid)	...	180·0	...	...
"	"	23 and 24, Cathcart St. (Scarlet Fever)	...	134·0	...	very large
"	"	25 and 26, Cathcart Street ...	...	124·0	...	"
"	13th	90 and 92, St. Luke's Road ...	...	147·4	...	very large
"	"	12 Court, Bissell Street (Typhoid) ...	...	156·0	...	...
"	"	85, Summer Lane (Diphtheria) ...	...	164·0	...	...
"	"	47 and 48, Tillingham St. (Typhoid)	...	112·4	...	...
"	"	20, Highgate Lane ...	...	135·4	...	very large
"	"	2 Court, Sun Street (Typhoid) ...	...	195·0	...	...
"	18th	8, Kent Street North (Small-pox) ...	...	78·4	...	very large
"	"	130 and 131, Cregoe Street ...	...	134·0	...	"
"	"	16—21, Cregoe Street, and 7 Court, Latimer St. South (Scarlet Fever)	...	113·0	...	"
"	"	2 Court, Burbary St. (Scarlet Fever)	...	261·4	...	...



(continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Ammonia Contam- ination. (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor- ary.	Perman- ent.	Total.	
·006	6·60	6·605	65730	13·5	...	...	...	Clear
·005	3·30	3·304	32720	7·8	...	...	...	Clear
·006	2·86	2·865	28330	6·5	...	...	...	Clear
·018	7·48	7·495	74630	20·0	...	...	...	Clear
·006	2·86	2·865	28330	12·0	...	...	...	Clear
·006	2·75	2·755	27230	3·5	...	...	...	Clear
·003	3·30	3·302	32700	4·9	...	...	...	Clear
·004	5·39	5·393	53610	7·0	...	...	...	Clear
·003	·99	·992	9600	7·5	...	...	...	Slightly turbid
·006	4·51	4·515	44830	14·5	...	...	...	Clear
·325	7·71	6·977	69450	15·0	...	...	...	Clear
·010	5·28	5·288	52560	17·8	...	...	...	Clear
·007	2·09	2·096	20640	7·1	...	...	...	Clear
·004	6·82	6·823	67910	17·5	...	...	...	Clear
·150	6·05	6·173	61410	4·9	...	...	...	Clear, yellow
·004	2·75	2·753	27210	4·9	...	...	...	Clear
·005	2·53	2·534	25020	5·4	...	...	...	Clear
·003	6·60	6·602	65700	22·5	...	...	...	Clear
·015	16·72	16·832	168000	40·8	...	...	...	Clear
1·650	4·95	6·308	62760	12·5	...	...	...	Clear
·009	4·07	4·077	40450	12·0	...	...	...	Clear
·020	4·40	4·416	43840	20·0	...	...	...	Clear
1·150	3·52	4·466	44340	15·1	...	...	...	Clear
1·900	4·18	5·745	57130	9·7	...	...	...	Clear
·024	1·43	1·450	14180	47·1	...	...	...	Clear
·010	·66	·668	6360	4·5	...	...	...	Clear
·007	3·19	3·196	31640	9·1	...	...	...	Clear
·007	7·59	7·596	75640	19·3	...	...	...	Clear
·006	6·93	6·935	69020	23·8	...	...	...	Clear
·680	4·62	5·180	51480	45·7	...	...	...	Clear
·008	2·75	2·756	27240	5·8	...	...	...	Clear
·052	·11	·153	1210	1·2	...	...	...	Turbid
·820	3·30	3·976	39440	13·0	...	...	...	Clear
·006	3·41	3·415	33830	10·2	...	...	...	Clear
2·100	13·31	15·032	150000	25·0	...	...	...	Clear
·012	1·10	1·110	10880	34·1	...	...	...	Clear
·950	9·90	10·681	106490	13·5	...	...	...	Clear
·007	5·50	5·506	54740	6·9	...	...	...	Clear
·005	4·62	4·624	45920	6·7	...	...	...	Clear
·008	3·30	3·306	32740	11·2	...	...	...	Clear
1·450	4·62	5·814	57820	14·5	...	...	...	Clear
·052	7·70	7·743	77110	25·3	...	...	...	Clear
·058	3·52	3·568	35360	6·1	...	...	...	Clear
·005	4·62	4·624	45920	8·2	...	...	...	Clear
·019	4·29	4·306	42740	26·4	...	...	...	Clear
·014	3·02	3·029	29970	8·0	...	...	...	Clear
·005	8·25	8·254	82220	16·6	...	...	...	Clear
·005	5·17	5·174	51420	13·8	...	...	...	Clear
1·300	16·28	17·350	173180	38·0	..	...	...	Clear

TABLE XV.

Date of Receipt of Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organi Nitroge
1878.	WELL WATERS—(continued).				
Nov. 18th	4 and 5, Mount Street (Small-pox) ...	...	157.4	...	...
" "	8 and 9, Little King Street, and 250, New John St. West (Scarlet Fever)	...	87.0	...	very lar
" 20th	70—72, Dollman Street ...	...	115.4	...	...
" "	48—53, Leopold St. (Scarlet Fever)	...	99.0	...	large
" "	4 and 5 Courts, Inkerman St. (Scarlet Fever)	...	150.0	...	...
" "	29—31, Emily Street (Scarlet Fever)	...	232.4	...	very lar
" "	306, Pershore Road ...	...	72.4	...	"
" "	307, Pershore Road (Typhoid)	...	66.0	...	"
" 22nd	1—7, Lilly Green ...	...	360.4	...	"
" "	139 and 140, Sampson Road (Scarlet Fever)...	...	101.0	...	"
" "	1 Court, Norfolk Street ...	...	43.0	...	"
" "	3 Court, Little Edward Street (Scarlet Fever)	...	245.4	...	...
" "	Windsor Terrace, Ravenhurst Street...	...	155.4	...	...
" "	32 and 33, Anderton Road ...	...	90.0	...	very lar
" 29th	2 and 3, Stafford Street (Scarlet Fever)	...	112.4	...	"
" "	6 and 7, Highgate Place, Moseley Road	...	159.0	...	"
" "	Shipway Terrace, Highgate St. (Scarlet Fever)	...	180.0	...	"
" 30th	17, Montpellier Street ...	...	133.8	...	"
" "	5 Court, Emily Street (Scarlet Fever)	...	181.4	...	large
" "	3 & 4 Courts, Emily St. (Scarlet Fever)	...	227.0	...	very lar
Dec. 5th	21 & 22 Courts, Brearley St. West (Scarlet Fever)	...	134.4	...	...
" "	18 Court, Well Street ...	...	95.0	...	...
" "	104 & 105, Rupert St. (Scarlet Fever)	...	156.0	...	very lar
" "	Back 7, Bull Ring ...	...	151.4	...	...
" "	2—10, Cregoe Street (Scarlet Fever)	...	135.4	...	very lar
" "	132—136, Cregoe Street ...	...	141.0	...	"
" 9th	18 and 19, Bloomsbury Street ...	...	82.4	...	"
" "	15, Speedwell Road ...	...	101.0	...	"
" "	2, Poplar Avenue, Sandon Road ...	...	50.0	...	"
" "	12 Court, Lee Bank Road (Scarlet Fever)	...	105.4	...	"
" "	10—12, Spring Street ...	...	263.4	...	...
" "	44 and 45, Inkerman Street ...	...	197.0	...	very lar
" 12th	Prospect Place, Holborn Hill ...	...	144.4	...	...
" 20th	9—13, Wordsworth Road ...	...	98.4	...	...
" "	49 and 50, Wordsworth Road ...	...	108.0	...	very lar
" 21st	69 and 70, Cheapside ...	...	356.0	...	"
" "	12, Court, Milk Street (Scarlet Fever)	...	235.4	...	"
" "	44—46, New Canal Street ...	...	197.4	...	"
" "	Back 19, Park Lane ...	...	292.0	...	...
" 30th	448 & 449, New John St. West (Measles)	...	148.4	...	...
" "	5—7, Dymoke Street (Scarlet Fever)	...	151.0	...	very lar
" "	73—78, Newtown Row (Scarlet Fever)	...	122.0	...	...
" "	93—95, Emily Street (Scarlet Fever)	...	95.4	...	...
" "	46—49, Johnson Street ...	...	161.4	...	...
" "	41—45, Johnson Street ...	...	156.0	...	...

continued).

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contam- ination (Estimated)	Chlorine.	Hardness.			REMARKS.
					Tempor- ary.	Perman- ent.	Total.	
·019	6·01	6·066	60340	14·0	...	...	...	Clear
·005	4·62	4·624	45920	9·7	...	...	...	Clear
·085	4·40	4·470	44380	7·0	...	...	...	Clear
·004	1·76	1·763	17310	7·6	...	...	...	Clear
·620	3·96	4·470	44380	18·1	...	...	...	Clear
·005	6·60	6·604	65720	16·7	...	...	...	Clear
·005	·44	·444	4120	7·1	...	...	...	Clear
·004	·55	·553	5210	6·9	...	...	...	Clear
·015	10·01	10·02	99900	40·8	...	...	...	Slightly turbid
·011	0·09	2·099	20670	10·8	...	...	...	Clear
·006	·77	·775	7430	3·9	...	...	...	Clear
·190	6·82	6·976	69440	20·2	...	...	...	Clear
·480	7·15	7·545	75130	11·3	...	...	...	
·005	1·32	1·324	12920	3·0	...	...	...	Clear
·013	3·19	3·200	31680	16·8	...	...	...	Clear
·009	3·63	3·637	36050	12·0	...	...	...	Clear
·003	2·09	2·092	20600	10·9	...	...	...	Clear
·004	4·29	4·293	42610	10·8	...	...	...	Clear
·003	3·74	3·742	37100	12·1	...	...	...	
·002	5·17	5·171	51390	13·8	...	...	...	
·650	4·51	5·045	50130	16·5	...	...	...	Clear
·028	3·30	3·323	32910	13·9	...	...	...	Clear
·007	1·87	1·876	18420	6·7	...	...	...	Clear
·125	4·40	4·503	44710	29·0	...	...	...	Clear
·010	6·05	6·058	60260	17·2	...	...	...	Clear
·018	7·70	7·715	76830	18·5	...	...	...	Clear
·014	1·54	1·551	15190	8·7	...	...	...	Clear
·016	1·43	1·443	14120	7·8	...	...	...	Clear
·008	1·87	1·877	18450	4·8	...	...	...	Clear
·010	6·05	6·058	60260	10·4	...	...	...	Clear
1·200	10·45	11·438	114060	24·5	...	...	...	Clear
·025	9·90	9·920	98880	13·7	...	...	...	Clear
3·400	2·42	5·218	51860	25·3	...	...	...	Clear, some suspended particles
2·000	·44	2·080	20580	7·5	...	...	...	Turbid
·008	3·41	3·416	33840	9·1	...	...	...	Turbid
·005	18·70	18·704	186720	44·1	...	...	...	Clear
·010	4·95	4·958	49260	24·2	...	...	...	Clear
·010	7·04	7·048	70160	27·1	...	...	...	Clear
·650	9·24	9·775	97430	44·5	...	...	...	Clear
·020	5·28	5·296	52640	19·8	...	...	...	Clear
·008	3·85	3·856	38240	14·4	...	...	...	Clear
·150	4·40	4·523	44910	12·3	...	...	...	Clear
·017	1·54	1·554	15220	3·9	...	...	...	Clear
·090	4·95	5·024	49920	12·8	...	...	...	Clear
·075	7·92	7·982	79500	7·0	...	...	...	Clear



TABLE XVI.

RETURN FOR THE PERIOD 1ST JULY, 1877, TO 30TH JUNE, 1878, RESPECTING THE VACCINATION OF CHILDREN WHOSE BIRTHS WERE REGISTERED IN THE BOROUGH DURING THE SAID PERIOD.

PARISH.	Number of Births returned in the "Birth List Sheets" as Registered.	Number of these Births duly entered in Columns 10, 11, and 13 of the "Vaccination Register" (Birth List Sheets), viz. :				Number of these Births which remained unentered in the "Vaccination Register" on account (as shown by Report Book) of				Number of these Births remaining neither duly entered in the "Vaccination Register (cols 3, 4, 5, and 6 of this Return) nor temporarily accounted for in the "Report Book" (cols. 8, 9, and 10 of this Return).
		Col. 10. "Successfully Vaccinated."	Col. 11. "Insusceptible of Vaccination"	Col. 11. "Had Smallpox."	Col. 13. "Dead, Unvaccinated."	Postponement by Medical Certificate.	Removal to Districts the Vaccination Officer of which has been duly appraised.	Removal to places unknown or which cannot be reached; and Cases not having been found.		
1	2	3	4	5	6	8	9	10	11	
Birmingham - - -	9,763	8,033	9	—	940	93	8	679	1	
Aston (within the Borough)	5,653	4,695	—	—	517	67	16	330	28	
Edgbaston ( " )	505	388	2	—	20	46	3	19	27	

Table of the Number of Deaths occurring in each Street in the Borough of Birmingham during the Year 1878.

STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases
A			Bath Row .. .. .	2	5	C		
Abberley Street .. ..		2	Bath Street .. .. .	2	5	Calthorpe Road .. ..	1	1
Abbey Street .. .. .	2	5	Beach Street .. .. .	1	7	Cambridge Cresceent ..		1
Aberdeen Street .. ..	10	15	Beak Street .. .. .	2	3	Cambridge Street .. ..	3	2
A. B. Row .. .. .			Beatrice Cresceent ..			Camden Drive .. .. .		
Adam Street .. .. .	6	6	Beaufort Road .. .. .		7	Camden Grove .. .. .		
Adderley Street .. ..	2	3	Bedford Road .. .. .	1	1	Camden Street .. .. .	17	40
Adelaide Street, Deritend	4	6	Belgrave Road .. .. .	2	5	Camp Hill .. .. .	2	7
Adelaide St., Duddleston	2	3	Bell Barn Road .. .. .	8	41	Camp Street .. .. .	3	2
Albert Street, Deritend ..	1	5	Bellis Street .. .. .	1	6	Canal Street .. .. .		5
Albert Street, All Saints'		1	Bell Street .. .. .		2	Cannon Street .. .. .		1
Albert Street, St. Martin's		2	Belmont Passage .. ..		4	Cape Lane .. .. .		
Albion Street .. .. .			Belmont Row .. .. .	3	7	Cape Street .. .. .		
Aleester Street .. .. .	8	20	Benaere Street .. .. .	8	23	Cardigan Street .. ..	5	11
Alexandra Road .. .. .			Bennett's Hill .. .. .	1	3	Carlisle Street .. .. .	2	2
Alexandra Street .. ..		5	Berkeley Street .. .. .		1	Caroline Street .. .. .	1	5
Alfred Street .. .. .			Berner's Street .. .. .	1	2	Carpenter Road .. .. .		2
Alcock Street .. .. .	3	8	Beswick Street .. .. .		1	Carr's Lane .. .. .		
Allesley Street .. .. .			Betholom Row .. .. .		1	Cartland Road .. .. .	1	3
Allison Street .. .. .	6	26	Birehall Street .. .. .	1	5	Carver Street .. .. .	5	14
All Saints' Road .. .. .	2	4	Bird Lane .. .. .		1	Castle Street, St. Martin		1
All Sai ts' Street .. ..		2	Bishopgate Street .. ..	4	20	Castle Street, Deritend ..		2
Alma Crescent .. .. .		3	Bishop St., St. Martin's ..	3	14	Catheart Street .. .. .	3	7
Alma Street .. .. .			Bishop Street, St. Mary's		7	Cato Street .. .. .	1	9
Alston Street .. .. .	3	5	Bishop Street South ..	3	7	Cato Street North .. ..	1	6
Ampton Road .. .. .	1		Bissell Street .. .. .	11	13	Cattell Road .. .. .	8	18
Anderton Road .. .. .		5	Blake Lane .. .. .			Cattell Grove .. .. .	1	3
Anderton Street .. .. .	2	5	Blews Street .. .. .		6	Cecil Street .. .. .	11	11
Andover Street .. .. .			Blews Street West .. ..	2	4	Centre Row .. .. .		1
Angelina Street .. .. .	2	11	Bloomsbury .. .. .	1	10	Chad Road .. .. .		1
Ann Street .. .. .			Bloomsbury Street .. ..	2	15	Chapel House Street ..		1
Argyle Street .. .. .	4	5	Blucher Street .. .. .	2	6	Chandos Road .. .. .		1
Armoury Road .. .. .			Bolton Road .. .. .	4	17	Chapel Street .. .. .	3	6
Arsenal Street .. .. .		1	Bolton Street .. .. .		1	Chapman Road .. .. .	1	2
Arthur Road .. .. .			Bond Street .. .. .		5	Charles Arthur Street ..	3	11
Arthur Street .. .. .	8	13	Bordesley Green .. .. .	5	20	Charles Henry Street ..	5	37
Ashted Row .. .. .	11	10	Bordesley Green Road ..		1	Charlotte Road .. .. .	1	1
Aston Brook Street .. ..			Bordesley Park Road ..	6	27	Charlotte Street .. .. .		3
Aston Road .. .. .	9	38	Bordesley Street .. .. .	16	18	Chattaway Street .. ..	2	2
Aston Street .. .. .	4	14	Bow Street .. .. .	3	7	Cheapside .. .. .	19	41
Asylum Road .. .. .		3	Bowyer Street .. .. .	2	1	Cheatham Street .. ..		2
At-hole Street .. .. .		1	Bracebridge Street .. ..	7	7	Cheequm's Walk .. .. .	2	4
Atlas Street .. .. .	1	1	Bradford Street .. .. .	6	36	Cherry Street .. .. .		2
Auckland Road .. .. .	1	2	Braithwaite Road .. ..		3	Cherry Wood Lane .. ..		1
Augusta Street .. .. .	2	5	Branstion Street .. .. .	4	9	Chester St., Ladywood ..	8	16
Augustus Road .. .. .			Brasshouse Passage .. ..		2	Chester St., Duddleston ..	3	4
Austiu Street .. .. .	1		Brass Street .. .. .	2	6	Cheston Road .. .. .		
Avenue Road .. .. .		2	Bread Lane .. .. .	1	3	Christ Church Passage ..		2
			Bread Street, St. Paul's ..		1	Church Road, All Saints'	1	4
			Bread Street, St. Martin's		1	Church Road, Duddleston ..		3
			Brearley Street .. .. .	7	24	Church Road, Edgbaston ..		1
			Brearley Street West ..	7	20	Church Street .. .. .	1	5
			Brewery St., Deritend ..			Clarendon Road .. .. .	5	3
			Brewery St., St. Mary's ..	2	6	Clark Street .. .. .	3	16
			Brewery St., Duddleston ..	1	14	Claverdon Street .. ..	2	9
B			Bricklin Street .. .. .	1	3	Claybrook Street .. ..	2	1
Bacchus Road .. .. .		6	Bridge Road .. .. .			Clement Street .. .. .	1	
Bagot Street .. .. .	5	10	Bridge Street, Duddleston		1	Cleve Terrace .. .. .		1
Bailey Street .. .. .	1	2	Bridge Street, St. Thomas	1		Clissold Street .. .. .		4
Baker Street .. .. .	2	8	Bridge Street West .. ..	3	45	Cleveland Street .. ..	3	5
Balloon Street .. .. .		2	Bristol Road .. .. .	1	13	Coach Yard .. .. .	1	1
Balsall Heath Road .. ..		5	Bristol Street .. .. .	3	22	Coleman Street .. .. .	7	19
Balsall Street .. .. .	1	3	Broad Street .. .. .	13	16	Colleshill Street .. ..	6	14
Banbury Street .. .. .		3	Bromsgrove Street .. ..	0	21	College Street .. .. .	5	7
Barford Street .. .. .	10	27	Brookfield Road .. ..			Cohnore Row .. .. .		1
Barford Street South ..	7	9	Brook Road .. .. .		1	Commercial Street .. ..	1	
Barker Street .. .. .	11	2	Brook Street .. .. .		2	Communication Row ..	3	5
Barlow's Road .. .. .		1	Broom Street .. .. .	1		Congreve Street .. ..		1
Barn Street .. .. .	4	19	Bruneton's Street .. ..			Constitution Hill .. ..	2	8
Barrack Street .. .. .			Buckingham Street .. ..	5	16	Conybere Street .. ..	3	18
Barr Street .. .. .	6	8	Buck Street .. .. .		3	Cooksey Road .. .. .	4	8
Barr Street West .. ..	2	6	Bullock Road .. .. .			Cope Street .. .. .	2	4
Bartholomew Row .. ..		2	Bullock Street .. .. .	1	1	Coplow Street .. .. .	2	5
Bartholomew Street .. ..	4	10	Bull Ring .. .. .		2	Cotton Row .. .. .		
Baskerville Passage .. ..			Bull Street .. .. .		3			
Baskerville Place .. ..		1	Burbury Street .. .. .	4	9			
Bath Passage .. .. .			Butler Street .. .. .	1	3			
			Butler Street South ..		1			

STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases
Cotton Street .. .. .		3	Farm Road .. .. .		2	Greaves' Court .. .. .		
Courthouse Yard .. .. .			Farm Street .. .. .	17	50	Greenfield Crescent .. .. .		
Coventry Road .. .. .	15	36	Farnham Road .. .. .			Green Lane .. .. .	6	18
Coventry Street .. .. .	8	13	Fawcay Street .. .. .			Green's Court .. .. .	2	6
Cox Street .. .. .	1	3	Fazeley Street .. .. .	3	5	Green Street, Deritend .. .. .		
Coxwell Road .. .. .		6	Fisher Street .. .. .	12	10	Green Street, All Saints' .. .. .	3	5
Crabtree Road .. .. .	2	5	Fleet Street .. .. .	6	24	Green's Village .. .. .	4	4
Cranmore Street .. .. .	1	2	Floodgate Street .. .. .	12	6	Greenway Street .. .. .	10	9
Cregoe Street .. .. .	5	15	Florence Street .. .. .		4	Grindstone Road .. .. .		
Crescent .. .. .		2	Fordrough Lane .. .. .			Grosvenor Row .. .. .		1
Crescent Wharf .. .. .			Fordrough Street .. .. .	8	7	Grosvenor Street .. .. .		1
Cromwell Street .. .. .	10	37	Ford Street .. .. .	5	11	Grosvenor Street West .. .. .	8	24
Crooked Lane .. .. .			Forge Street .. .. .		1	Grove Street .. .. .		
Cross Street .. .. .		3	Foundry Road .. .. .	1		Guest Street .. .. .	1	1
Cuckoo Road .. .. .	5	5	Fowler Street .. .. .	1	2	Guildford Street .. .. .	6	11
Cumberland Street .. .. .	1	1	Fox Street .. .. .		11	Gullet, St. Mary .. .. .		4
Curzon Street .. .. .	4	2	Francis Road .. .. .		4	Gullet, Deritend .. .. .		
Cuthbert Road .. .. .			Francis Street .. .. .	2	26	Gullet, St. Thomas' .. .. .		1
			Frankfort Street .. .. .	3	10			
D			Franklin Street .. .. .		1	H		
			Frank Street .. .. .		4			
Dale End .. .. .	4	8	Frederick Road .. .. .		5			
Dart Street .. .. .		1	Frederick Street .. .. .		5			
Dartmouth Street .. .. .	4	14	Freeman Road .. .. .		3			
Darwin Street .. .. .	13	26	Freeman Street .. .. .		2			
Dawson Street .. .. .			Freeeth Street .. .. .	8	10	Hagley Road .. .. .	1	24
Dean Street .. .. .	3	4	Friston Street .. .. .	5	20	Hall Street .. .. .	1	5
Derby Street .. .. .		3				Hampton Street .. .. .	5	16
Devon Street .. .. .	2	15	G			Handsworth New Road .. .. .		1
Devonshire Street .. .. .	5	13				Hanley Street .. .. .	2	8
Digbeth .. .. .	7	22				Hanover Street .. .. .		1
Digby Street .. .. .	1	3				Harborne Road .. .. .		7
Doe Street .. .. .		2				Harding St., St. George's .. .. .	3	7
Dolobran Road .. .. .	2	1				Harding Street, All Saints' .. .. .	1	4
Dolman Street .. .. .		7				Harford Street .. .. .		3
Drury Lane .. .. .			Galton Street .. .. .		2	Harrison's Road .. .. .		
Duchess Road .. .. .			Garbett Street .. .. .	8	8	Hatchett Street .. .. .	6	18
Duddeston Mill Road .. .. .	4	15	Garrison Lane .. .. .	13	32	Hawkes Street .. .. .		8
Duddeston Row .. .. .	1	13	Garrison Street .. .. .	1	11	Heath Mill Lane .. .. .	1	13
Dudley Road .. .. .	9	11	Gas Street .. .. .		1	Heath Street .. .. .	13	25
Dudley Street .. .. .	2	2	Geach Street .. .. .	2	5	Heath Street South .. .. .		1
Dugdale Street .. .. .		5	Gee Street .. .. .	1	1	Hendon Street .. .. .	4	15
Duke Street .. .. .	5	12	Gem Street .. .. .	1	3	Helena Street .. .. .	1	1
Dymoke Street .. .. .	7	11	George Road .. .. .		1	Heneage Street .. .. .	10	30
			George Street (All Saints') .. .. .	3	2	Henley Street .. .. .	3	5
			George Street, Neechells .. .. .			Henn Street .. .. .		
			George Street West .. .. .	8	17	Henn's Walk .. .. .		
			Gibb Street .. .. .		1	Henrietta Street .. .. .	3	7
E			Gillott Road .. .. .			Henry Street .. .. .	1	20
			Gladstone Road .. .. .		1	Herbert Road .. .. .	12	22
			Glebe Passage .. .. .			Hermitage Road .. .. .		
			Glebe Street .. .. .	2	6	Hickman Road .. .. .		1
Eastern Road .. .. .			Gloucester Street .. .. .			Hick Square .. .. .		
Easy Row .. .. .			Glover's Road .. .. .		3	Hick Street .. .. .	3	6
Eden Place .. .. .			Glover's Street .. .. .	18	12	Highfield Road .. .. .		
Edgbaston Road .. .. .			Godwin Street .. .. .	3	1	Highgate Lane .. .. .	2	4
Edgbaston Street .. .. .	1	5	Golden Hillock Road .. .. .	4	3	Highgate Place .. .. .		1
Edmund Street .. .. .		1	Gough Street .. .. .	9	29	Highgate Street .. .. .	15	18
Edward Road .. .. .			Goode Street .. .. .	1	2	High Park Street .. .. .	2	11



STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases
Hunter's Lane .. ..			Lees Street .. ..	2	1	Montgomery Street ..		1
Hunter's Vale .. ..	1	1	Legge Lane .. ..	1	3	Montpellier Street ..	1	2
Hurst Street .. ..	3	11	Legge Street .. ..	3	11	Monument Road ..	9	26
Hutton Street .. ..		1	Lench Street .. ..	2	13	Moore's Row .. ..	1	
Hyde Road .. ..	1	7	Lennox Street .. ..	9	10	Moorsom Street .. ..		
Hylton Street .. ..		1	Leopold Street .. ..	9	15	Moor Street .. ..	2	9
			Lichfield Street ..	1	6	Moreton Street .. ..	1	4
			Lilly Green .. ..	2	2	Morville Street .. ..	8	15
			Lingard Street .. ..	1	2	Moseley Road .. ..	7	24
			Lionel Street .. ..	2	16	Moseley Street .. ..	10	24
			Lister Street .. ..		6	Mott Street .. ..	6	8
			Little Ann Street ..	4	3	Mountfield Road ..		
			Little Barr Street ..	1	6	Mount Pleasant ..		
			Little Bow Street ..		1	Meriden Street .. ..	6	13
Icknield Port Road ..	26	28	Little Broom Street ..			Metchley Lane .. ..	2	1
Icknield Square .. ..	3	8	Little Cannon Street ..		3	Metchley Park Road ..		
Icknield Street .. ..	8	21	Little Cherry Street ..			Miles Street .. ..	4	17
Inge Street .. ..	5	11	Little Edward Street ..	2	1	Milk Street .. ..	4	10
Ingleby Street .. ..	1	16	Little Francis Street ..			Miller Street .. ..	14	8
Inkerman Street .. ..	5	11	Little Green Lane ..	8	16	Mill Lane .. ..		1
Irving Street .. ..	17	34	Little Hill Street ..			Mill Street, Duddleston ..		
Islington Row .. ..		5	Little King Street ..	1	12	Mill Street, Ladywood ..	2	6
Ivy Lane .. ..	1	2	Little Shadwell Street ..			Milton Street .. ..	5	6
			Little Wright Street ..			Milward Street .. ..		6
			Liverpool Street ..		1	Minories .. ..		
			Livery Street .. ..	7	11	Moat Lane .. ..		
J			Lloyd Street .. ..			Moat Row .. ..		3
Jamaica Row .. ..		3	Lodge Road .. ..	10	33	Moffliett Street .. ..		1
James Street .. ..		1	Lombard Street .. ..	2	13	Moland Street .. ..	7	17
Jenkin's Street .. ..			London Prentice Street ..		5	Mole Street .. ..	1	5
Jennen's Row .. ..			Long Acre .. ..	5	17	Mona Road .. ..		1
Johnson Street .. ..			Longmore Street .. ..	4	2	Monmouth Street .. ..		1
Johnstone Street .. ..	2	4	Long Street .. ..	2	13	Montague Road .. ..		
John Street .. ..	2	11	Lord Street .. ..	2	9	Montague Street .. ..	6	5
			Louisa Street .. ..			Mount Street, St. Paul's ..		4
			Loveday Street .. ..	4	19	Mount Street, Deritend ..	4	4
			Love Lane .. ..	4	1	Mount St., Winsom Green ..	1	3
			Lower Camden Street ..	3	13	Mount Street, Nechells ..	2	16
K			Lower Dartmouth Street ..	4	5	Musgrave Road .. ..	1	3
Keeley Street .. ..	2	2	Lower Darwin Street ..		1	Muntz Street .. ..	3	9
Kelynge Street .. ..	5	9	Lower Essex Street ..	8	19			
Kendall Road .. ..			Lower Fazeley Street ..	1				
Kent Street .. ..	6	3	Lower Hospital Street ..	2	7	N		
Kent Street North ..	1	9	Lower Hurst Street ..	4	7	Navigation Street .. ..	5	7
Kenyon Street .. ..	3	10	Lower Hurst Street East ..		1	Nechells Park Road ..	6	31
Key Hill .. ..	2	10	Lr. King Edward's Rd. ..	4	5	Nechells Place .. ..	1	4
King Alfred's Place ..		4	Lower Lawley Street ..	2	1	Needham Street .. ..		
King Edward's Place ..		2	Lower Lawrence Street ..			Needless Alley .. ..		
King Edward's Road ..	2	12	Lower Loveday Street ..		2	Nelson Street .. ..	5	5
Kingston Road .. ..	1	4	Lower Pershore Street ..	2	4	Nelson Street South ..	8	13
Kingston Row .. ..			Lower Russell Street ..		2	Nelson Street West ..	4	11
King Street .. ..	1	2	Lowe Street .. ..		3	New Bartholomew Street ..	1	1
Kyott's Lake Road ..		2	Lower Temple Street ..		4	New Bond Street .. ..	1	7
Kyrwick's Lane .. ..	2	13	Lower Tower Street ..	13	26	New Bridge Street .. ..		2
			Lower Trinity Street ..		6	New Canal Street .. ..	7	14
			Lower Windsor Street ..	2	2	New Church Street .. ..	5	6
			Lowe Street .. ..			Newdegate Street .. ..		
			Loxton Street .. ..			New Edmund Street .. ..		12
			Ludgate Hill .. ..	1	4	New England .. ..		
			Ludgate Hill Passage ..			New Hall Hill .. ..		3
L			Lupin Street .. ..	7	9	New Hall Street .. ..		6
Ladypool Lane .. ..	1	1				New Inkleys .. ..	5	9
Ladywell Passage ..			M			New John Street .. ..	13	21
Ladywell Walk .. ..			Maedonald St., St. Geo. ..	2	6	New John Street West ..	22	49
Ladywood Grove .. ..		6	Maedonald St., St. Mtn's ..	1	7	New Market Street .. ..	1	
Ladywood Road .. ..	5	26	Main Street .. ..	4	8	New Meeting Street .. ..	1	
Lancaster Street .. ..	8	16	Malvern Hill Road .. ..	5	6	New Spring Street .. ..	3	7
Lander Street .. ..			Manchester Street .. ..	5	3	New Street .. ..		3
Langley Road .. ..			Manor Road .. ..			New Summer Street ..	10	10
Lansdown Street .. ..	1	4	Market Street .. ..	1	1	Newton Street .. ..	1	1
Larhes Street .. ..	5	9	Mark Lane .. ..		3	Newtown Row .. ..	8	36
Latimer Street .. ..	1	2	Marroway Street .. ..		1	Nile Street .. ..		
Latimer Street South ..	12	22	Marshall Street .. ..		1	Nineveh Road .. ..		
Lawden Road .. ..		1	Marshall Street South ..		1	Noel Road .. ..		2
Lawley Street .. ..	4	15	Mary Ann Street .. ..	1	3	Norfolk Road .. ..		1
Lawrence Street .. ..	7	23	Mary Street .. ..			Norfolk Street .. ..	2	1
Lease Lane .. ..	1	1	Masshouse Lane (St. Mtn) ..		3	Norman Street .. ..		8
Ledsam Street .. ..	4	10	Masshouse Lane, Edgbstn ..			Northampton Street ..		6
Lee Bank Road .. ..	3	24	Meadow Road .. ..			Northbrook Street .. ..	2	2
Lee Creseent .. ..	1	9	Meeting House Yard ..	1	1	Northumberland Street ..	3	2
Lee Mount .. ..						North Warwick Street ..		
Leek Street .. ..		1						

STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases	STREETS.	Zymotic Diseases	Other Diseases
Northwood Street ..	2	8	R			St. Paul's Square ..	1	1
North Street ..	12	4				St. Peter's Place ..		
Norton Street ..		2				St. Philip's Churchyard ..		1
Nova Scotia Street ..		12				St. Stephen's Street ..		
Nursery Road ..						St. Vincent's Street ..	5	16
O						Scholfeld Street ..	3	21
						Scotland Passage ..		
						Scotland Street ..		1
						Scott Street ..		
						Seyern Street ..		6
						Seymour Street ..		
						Shadwell Street ..	2	2
						Shakespeare Road ..	10	9
						Sheepcote Lane ..		5
						Sheepcote Street ..	6	10
Oakley Road ..	1	4				Sheep Street ..	5	12
Old Cross Street ..	2	3				Sherborne Street ..	8	29
Old Inkleys ..	1					Sherlock Street ..	20	37
Old Meeting Street ..						Shutt Lane ..		
Old Square ..		3				Silver Street ..	1	1
Oliver Road ..	5	8				Sir Harry's Road ..		1
Oliver Street ..	2	3				Skinner Lane ..		8
Oozells Street ..	1	1				Skinner Street ..		2
Oozells Street North ..	2	3				Slaney Street ..	1	8
Ormond Street ..	5	8				Sloc Lane ..		
Osler Street ..	1	3				Smallbrook Street ..	3	7
Oughton Place ..						Smithfield Passage ..		2
Outlet Road ..	2	1				Smithfield Street ..		
Owen Street ..	1	8				Smith St., St. George's ..	5	9
Oxford Street ..	1	2				Smith Street, Duddleston ..	1	3
Oxygen Street ..						Snape Street ..		7
P						Snow Hill ..	2	12
						Soho Road ..		6
						Somerset Road ..		
						Somerset Street ..	1	
						South Road ..	6	8
						Spark Street ..		2
						Speaking Stile Walk ..	1	
						Speedwell Road ..	1	
						Spencer Street ..	1	4
						Spiceal Street ..		
Paddington Street ..	1	7				Spon Terrace ..		
Pakenham Road ..		3				Spooner Street ..		2
Palmer Street ..	12	7				Springfield Street ..	9	8
Parade ..	2	6				Spring Hill ..	6	15
Paradise Street ..						Spring Hill Passage ..		
Parker Street ..	2	6				Spring Road ..		5
Park Lane ..	1	2				Spring Vale ..	1	
Park Road, All Saints' ..	12	45				Stafford Street ..		5
Park Road, Edgbaston ..						Staniforth Street ..	7	24
Park Street ..	4	10				Stannmore Road ..		1
Parliament Street ..	2	6				Station Road ..		1
Paternoster Row ..						Steelhouse Lane ..	5	25
Pebble Mill Road ..	1	5				Stephenson Place ..		
Peel Street ..	4	6				Stephenson Street ..		
Penn Street, Deritend ..	1	3				Steward Street ..	10	18
Penn Street, Duddleston ..	1	4				Stewart Street ..		
Pershore Road ..		7				Stirling Road ..		
Pershore Street ..		4				Stoke Street ..	6	11
Phillip's St., St. Martin's ..		1				Stone Yard (Deritend) ..	1	
Phillip's St. St. George's ..	3	3				Stone Yard (Edgbaston) ..		
Pickford Street ..	1	6				Stoney Lane ..		
Pidcock Street ..	1	1				Stonr Street ..	5	11
Pigott Street ..	2	10				Stratford Place ..		
Pinfold Street ..		1				Stratford Road ..	4	16
Pitney Street ..						Stratford Street ..	2	6
Pitsford Street ..	1	2				Suffolk Street ..	7	18
Plough and Harrow Road ..						Summerfield Road ..	4	
Pope Street ..	3	10				Summer Hill Road ..	3	4
Poplar Avenue East ..						Summer Hill Street ..	8	9
Poplar Avenue West ..						Summer Hill Terrace ..		2
Porchester Street ..	1	3				Summer Lane ..	17	39
Portland Road ..		1				Summer Road ..		
Potter Street ..		3				Summer Row ..	5	9
Poultry ..						Summer St., Edgbaston ..		4
Powell Street ..		3				Summer St. St. Phillips ..	4	4
Prescott Street ..	4	7				Snn Street ..	2	10
Price Street ..	5	14				Snn Street West ..	1	2
Priestley Road ..	6	1				Sutton Street ..		4
Primrose Hill ..		1				Swallow Street ..	2	2
Princes Row ..						Swan Passage ..		
Princes Street ..	2	3				Sydenham Road ..		
Princess Road ..		1						
Princip Street ..	4	8						
Priory Road ..								
Pritchett's Lane ..								
Pritchett Street ..	10	19						
Proctor Street ..	2	4						
Prospect Row ..	1	3						



STREETS.			STREETS.			STREETS.		
	Zymotic Diseases	Other Diseases		Zymotic Diseases	Other Diseases		Zymotic Diseases	Other Diseases
<b>T</b>			Vauxhall Road .. ..	9	22	Winson Green Road ..	6	14
Talbot Street .. ..		16	Vauxhall Street .. ..	1	5	Winson Street .. ..	2	5
Talfourd Street .. ..	3	4	Vere Street .. ..	5	9	Witton Street .. ..	3	7
Tanter Street .. ..	3	6	Vicarage Road .. ..			Woodbourne Road ..		
Taylor Street .. ..	3	5	Victoria Grove .. ..		1	Woodeock Street .. ..	4	9
Temple Field Street ..	4	5	Victoria Street .. ..		4	Wood Street, St. Thomas'		
Temple Row .. ..			Villa Street .. ..	1	5	Wood Street, Ladywood	1	
Temple Row West .. ..			Villiers Street .. ..	1	3	Worcester Street .. ..		
Temple Street .. ..		3	Vine Street .. ..		1	Worcester Wharf .. ..	1	1
Tenby Street .. ..		3	Vittoria Street .. ..		2	Wordsworth Road .. ..		1
Tenby Street North ..	1	2	Vyse Street .. ..		4	Wrentham Street .. ..	6	14
Tennant Street .. ..	6	15	<b>W</b>			Wright Street .. ..	3	5
Theodore Street .. ..	1	9	Walter Street .. ..	1	4	Wrottesley Street .. ..		1
Theresa Road .. ..		2	Ward Street .. ..	1	12	Wyndham Road .. ..		2
Thimble Mill Lane .. ..	2	10	Warner Street .. ..	1	3	Wynn Street .. ..	3	18
Thomas St., St. Mary's ..	4	6	Warstone Lane .. ..	5	21	<b>X</b>		
Thomas Street, Deritend			Warstone Parade East ..		2	<b>Y</b>		
Thorp Street .. ..	4	7	Warstone Parade West ..			Yew Tree Road .. ..		1
Tillingham Street .. ..	2	6	Warwick House Passage ..			York Passage .. ..		
Tindal Street .. ..	5	6	Warwick Street .. ..	7	13	York Road .. ..		1
Tonk Street .. ..		2	Washington Street .. ..	1	3	York Street .. ..		2
Tower Street .. ..	10	30	Waterloo Street .. ..		2	<b>Z</b>		
Trafalgar Road .. ..			Water Street .. ..	3	14	<b>ADDENDA.</b>		
Trent Street .. ..	1	6	Waterworks Road .. ..	3	2	Bordesley Station .. ..		5
Trinity Terrace .. ..			Watery Lane .. ..	18	18	Rotton Park Reservoir ..		7
Turner Street .. ..	11	8	Watts Road .. ..		1	Soho Railway Station ..		1
Tyndall Street .. ..		6	Weaman Row .. ..	6	15	Birmingham and Warwick		
<b>U</b>			Weaman Street .. ..	1	1	Canal .. ..		4
Unett Street .. ..	4	24	Wellesley Street .. ..			Snow Hill Station .. ..		1
Union Passage .. ..		3	Wellington Passage .. ..			Pebble Mill Pool .. ..		2
Union Street .. ..		1	Wellington Road .. ..		4	Old Birmingham Canal ..		3
Union Terrace .. ..			Wellington Street .. ..	5	8	Hoekley Railway Station		2
Upper Dean Street .. ..		1	Well Lane .. ..			River Rea .. ..		2
Upper Gough Street .. ..	1	6	Well Street .. ..	10	24	The Arcade .. ..		1
Upper Highgate Street ..	2	3	Westbourne Road .. ..			Vauxhall Railway Station		1
Upper Hoekley Street ..	1	1	Western Road .. ..			<b>AT INSTITUTIONS.</b>		
Upper Hospital Street ..	6	16	Westfield Road .. ..			General Hospital .. ..	19	182
Upper Marshall Street ..	3	2	Westley Street .. ..		3	Queen's Hospital .. ..	7	121
Upper Mill Lane .. ..			Weston Street .. ..		2	Children's Hospital .. ..	42	65
Upper Priory .. ..	1		Wharf Lane .. ..	1	2	Workhouse .. ..	12	523
Upper Ryland Road .. ..	3	6	Wharf St., St. Thomas' ..	5	10	Asylum .. ..		76
Upper Tower Street .. ..			Wharf Street, Deritend ..			Gaol .. ..		6
Upper Trinity Street .. ..	4	8	Wharf Street, Duddeston ..	1	4	Borough Hospital .. ..	71	1
Upper Windsor Street ..	9	14	Wharf Street, All Saints' ..	2	1	Homœopathic Hospital ..	1	2
<b>V</b>			Wharton Street .. ..		7	Women's Hospital, ..		
Vale Street .. ..			Wheeler Street .. ..	9	15	Crescent .. ..		7
Varna Road .. ..	3	6	Wheley's Lane .. ..	2	3	Deaf and Dumb Institu-		
Vaughton Street .. ..	3	18	Wheley's Road .. ..	1	7	tion .. ..		1
Vaughton Street South ..	1	2	White Lion Passage .. ..			<b>TOTALS .. ..</b>		
Vauxhall Grove .. ..	1	2	White Road .. ..	2	3		2421	7241
			Whitmore Road .. ..		9			
			Whitmore Street .. ..	2	9			
			Whittall Street .. ..		6			
			Wiggin Street .. ..					
			William Edward Street ..	2	6			
			William Henry Street ..	1	1			
			William St., St. Thomas' ..	7	18			
			William Street, Deritend ..	2	1			
			William Street North ..	3	3			
			Willis Street .. ..	5	9			
			Wilton Street .. ..	1	2			
			Windmill Hill .. ..		3			
			Windmill Street .. ..	3	2			
			Windsor Street .. ..	1				

Grand Total ... 9662







1878

TOTAL DEATH RATE FROM ALL CAUSES SHEWN IN WEEKLY PERIODS. THUS

AVERAGE AGE AT DEATH

—

—

DEATH RATE PER  
1000 PER ANN &  
AV. DEATH AGE IN YRS.

JANUARY   FEBRUARY   MARCH   APRIL   MAY   JUNE   JULY   AUGUST   SEPTEMBER   OCTOBER   NOVEMBER   DECEMBER

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52

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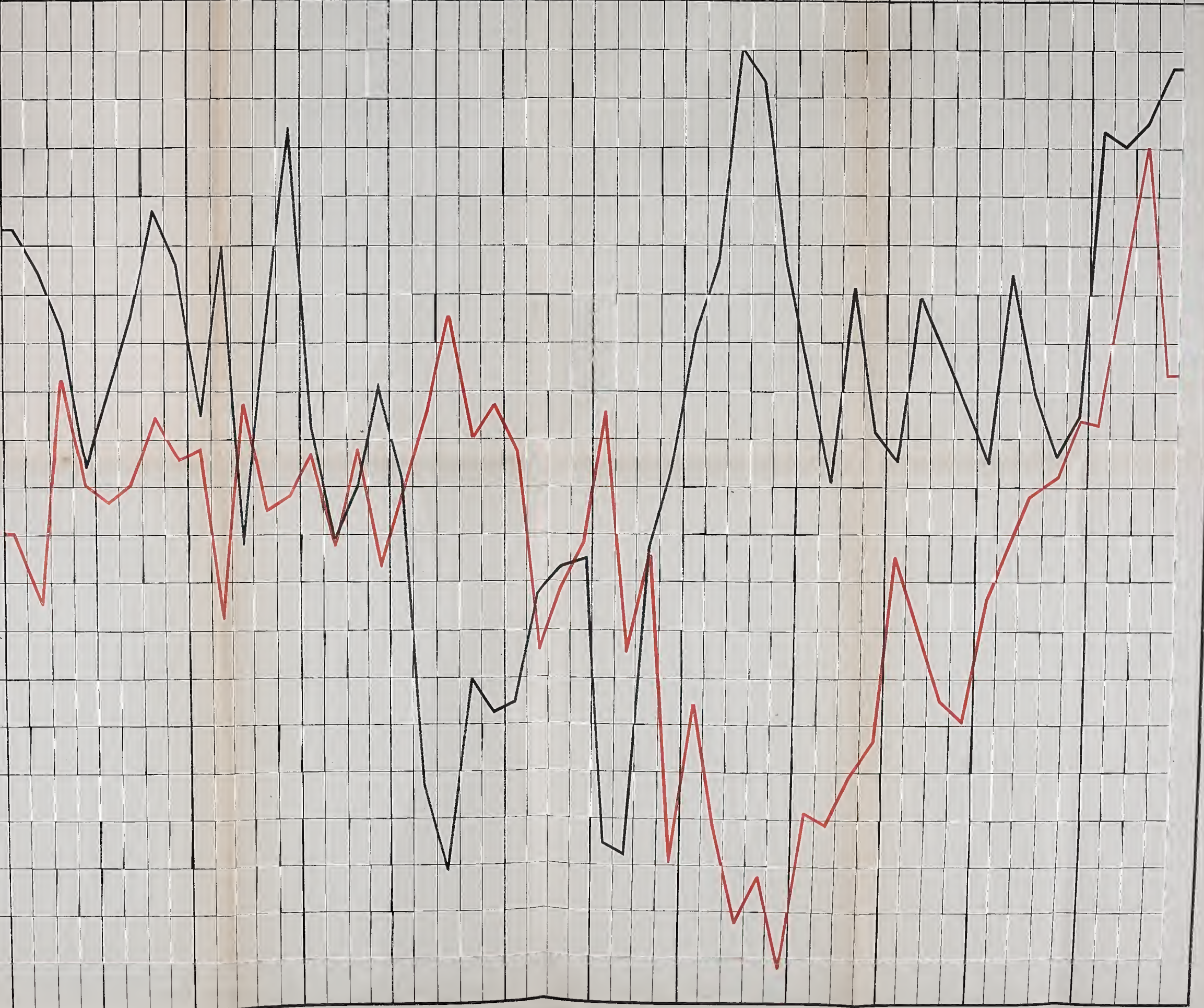
17

16

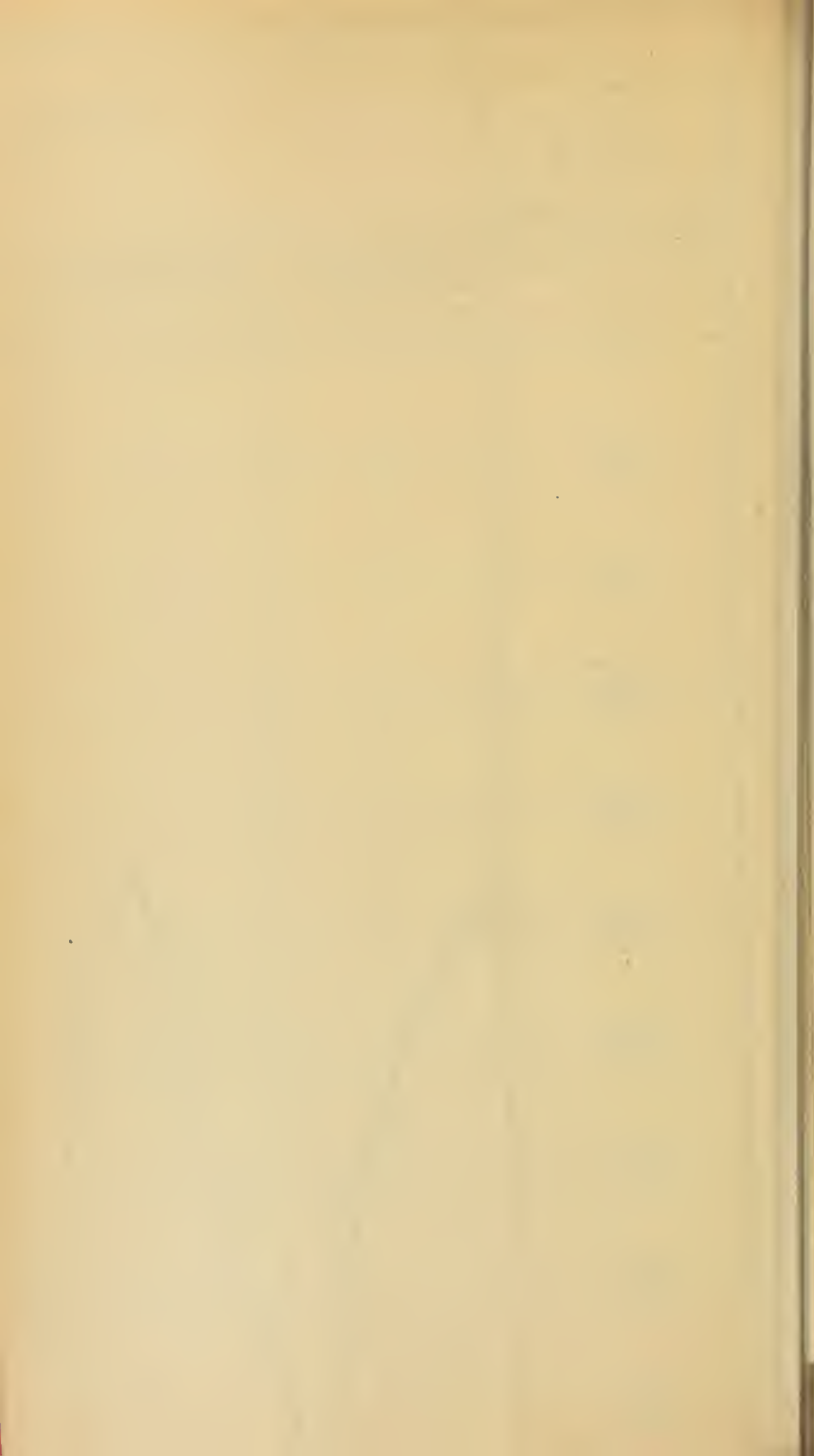
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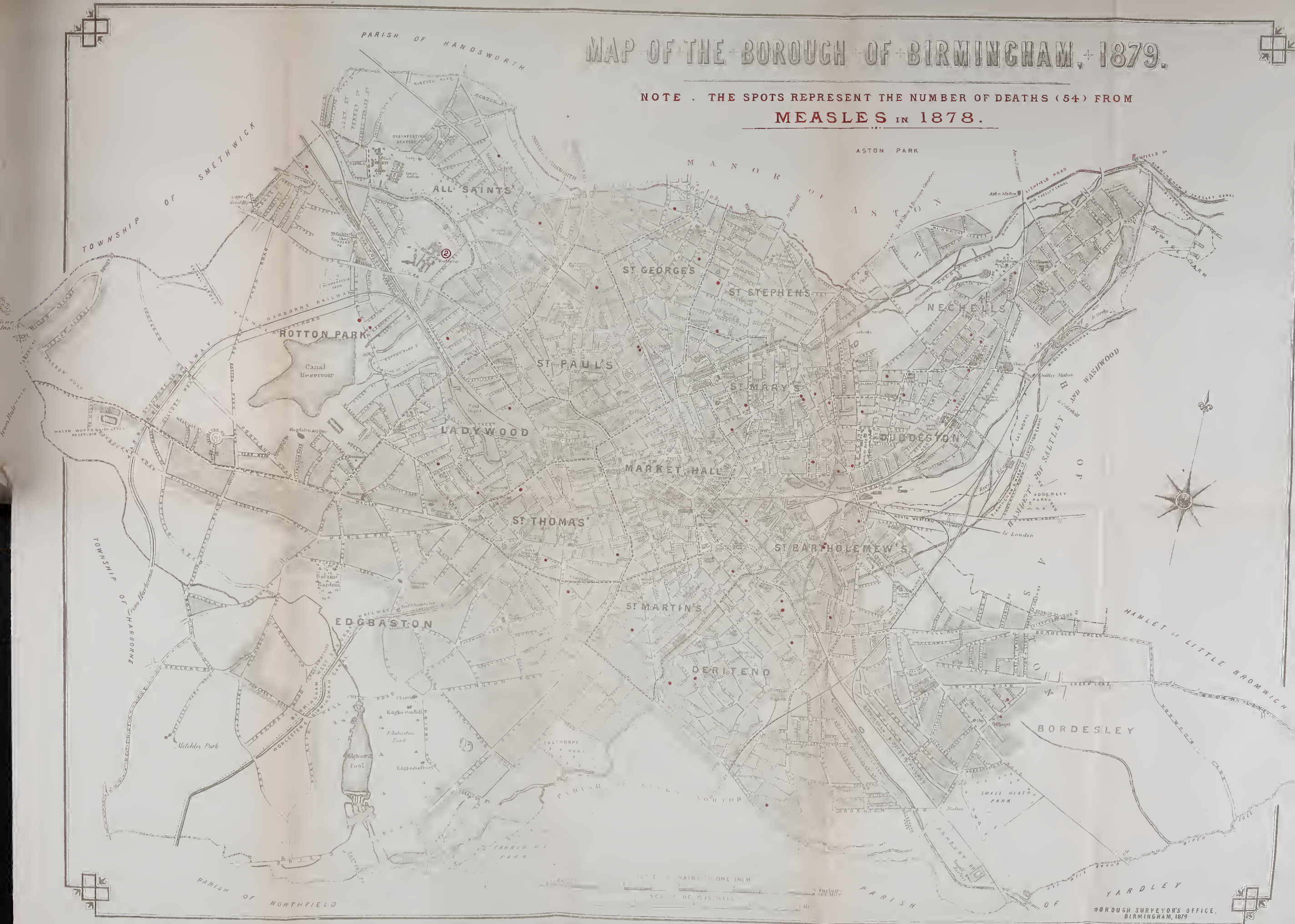






MAP OF THE BOROUGH OF BIRMINGHAM, 1879.

NOTE . THE SPOTS REPRESENT THE NUMBER OF DEATHS (54) FROM  
MEASLES IN 1878.







MAP OF THE BOROUGH OF BIRMINGHAM, 1879.

NOTE THE SPOTS REPRESENT THE NUMBER OF DEATHS (995) FROM SCARLET FEVER IN 1878.







MAP OF THE BOROUGH OF BIRMINGHAM, 1879.

NOTE . THE SPOTS REPRESENT THE NUMBER OF DEATHS (119) FROM  
TYPHOID FEVER IN 1878.





BOROUGH ANALYST'S LABORATORY,

PUBLIC OFFICE, BIRMINGHAM,

May 3rd, 1879.

TO THE HEALTH COMMITTEE.

MR. CHAIRMAN AND GENTLEMEN,

I beg to report that during the year 1878 I have analysed 158 articles of food and drink, of which the following are the particulars :—

No.	DATE.—1878.	ARTICLES.	REMARKS.	
509—	Jan. 1st...	Milk.....	Adulterated with 16% of water.	Private
			purchaser. No prosecution.	
510—	Feb. 8th...	Milk.. ..	Adulterated with 28% of water.	Private
			purchaser. No prosecution.	
511—	Mar. 15th...	Mustard .....	Genuine.	
512—	" ..	Mustard .....	Genuine.	
513—	" ..	Mustard .....	Genuine.	
514—	" ..	Mustard .....	Genuine.	
515—	" ..	Mustard .....	Genuine.	
516—	" ..	Mustard .....	Genuine.	
517—	Mar. 19 h...	Milk.....	Adulterated with 6% of water.	Private
			purchaser.	
518—	" ..	Tea .....	Genuine.	
519—	" ..	Tea .....	Genuine.	
520—	" ..	Tea .....	Genuine.	
521—	" ..	Tea .....	Genuine.	
522—	" ..	Tea .....	Genuine.	
523—	" ..	Tea .....	Genuine.	
524—	Mar. 26th...	Coffee .....	Genuine.	
525—	" ..	Coffee .....	Adulterated with chicory.	
526—	" ..	Coffee .....	Slightly adulterated.	
527—	" ..	Coffee .....	Genuine.	
528—	" ..	Coffee .....	Adulterated with chicory.	
529—	" ..	Coffee .....	Genuine.	
530—	Mar. 27th...	Milk.....	Genuine.	
531—	" ..	Milk.....	Genuine.	
532—	" ..	Milk.....	Genuine.	
533—	" ..	Milk.....	Genuine.	
534—	Mar. 29th...	Milk.....	Slightly Adulterated.	
535—	" ..	Milk.....	Genuine.	
536—	" ..	Milk.....	Adulterated with 75% of water, or upwards	
			8 parts of water added to 100 of milk.	
537—	" ..	Milk.....	Genuine.	
538—	April 29th...	Milk... ..	Genuine.	
539—	" ..	Milk.....	Nearly genuine.	
540—	" ..	Milk.....	Adulterated with 7% of water.	
541—	" ..	Milk.....	Adulterated with 8% of water.	
542—	May 6th...	Black Tea .....	Genuine.	
543—	" ..	Black Tea .....	Genuine.	
544—	" ..	Black Tea .....	Genuine.	
545—	May 7th...	Milk.....	Adulterated with 9·5 % of water.	
546—	" ..	Milk.....	Adulterated with 6 % of water.	
547—	" ..	Milk.....	Adulterated with 5 % of water.	
548—	" ..	Milk.....	Nearly genuine.	
549—	May 13th...	Black Tea .....	Genuine.	
550—	" ..	Black Tea .....	Genuine.	
551—	" ..	Black Tea .....	Genuine.	
552—	" ..	Coffee .....	Genuine.	
553—	" ..	Black Tea .....	Genuine.	
554—	" ..	Coffee .....	Genuine.	
555—	May 14th...	Milk.....	Adulterated with 11·3 % of water.	
556—	May 20th...	Coffee ..	Genuine.	
557—	" ..	Coffee .....	Genuine.	

No.	DATE.—1878.	ARTICLES.	REMARKS.
558—	May 20th...	Coffee .....	Genuine.
559—	" .....	White Pepper.....	Genuine.
560—	" .....	Black Pepper .....	Adulterated with 5 % of Earthy matter.
561—	" .....	White Pepper.....	Genuine.
562—	" .....	Black Pepper .....	Adulterated with 6 % of Earthy matter.
563—	June 6th...	Ale .....	Genuine.
564—	" .....	Ale .....	Genuine.
565—	" .....	Ale .....	Contained 63 grains of Salt per gallon.
566—	June 25th...	Milk.....	Adulterated with 27% of water. Fined 20/- and costs.
567—	" .....	Milk.....	Adulterated with 19% of water. Fined 10/- [and costs.
568—	" .....	Milk.....	Genuine.
569—	" .....	Milk.....	Adulterated with 19.5 % of water.
570—	" .....	Milk.....	Genuine.
571—	" .....	Milk.....	Genuine.
572A—	July 9th...	Milk.....	Genuine.
573A—	" .....	Flour .....	Genuine.
572—	" .....	Flour .....	Genuine.
573—	" .....	Flour .....	Genuine.
574—	" .....	Flour .....	Genuine.
575—	" .....	Flour .....	Genuine.
576—	" .....	Flour .....	Genuine.
577—	" .....	Flour .....	Genuine.
578—	" .....	Flour .....	Genuine.
579—	" .....	Flour .....	Genuine.
580—	" .....	Flour .....	Genuine.
581—	" .....	Flour .....	Genuine.
582—	" .....	Milk.....	Genuine.
583—	" .....	Milk.....	Genuine.
584—	Aug. 24th...	Ale .....	Genuine.
585—	" .....	Ale .....	Contained 94.32 grains of salt per gallon.
586—	" .....	Ale .....	Genuine. [Fined 20/- and costs.
587—	Aug. 26th...	Ale .....	Genuine.
588—	" .....	Ale .....	Genuine.
589—	" .....	Ale .....	Genuine.
590—	" .....	Ale .....	Genuine.
591—	Aug. 27th...	Ale .....	Genuine.
592—	" .....	Ale .....	Genuine.
593—	" .....	Ale .....	Genuine.
594—	" .....	Ale .....	Genuine.
595—	" .....	Ale .....	Genuine.
596—	Aug. 30th...	Gin .....	Genuine.
597—	" .....	Gin .....	Genuine.
598—	" .....	Gin .....	Genuine, nearly
599—	" .....	Gin .....	Genuine.
600—	" .....	Gin .....	Adulterated with Water, 28° under proof.
601—	" .....	Gin .....	Genuine.
602—	Aug. 31st...	Milk.....	Adulterated with 28 % of Water. Case dismissed through an informality.
603—	" .....	Milk.....	Adulterated with 10 % of Water.
604—	" .....	Milk.....	Genuine.
605—	" .....	Milk.....	Genuine.
606—	Sept. 6th...	Milk.....	Adulterated with 16 % of Water, and Cream abstracted. Case dismissed through an informality.
607—	Sept. 9th...	Milk.....	Adulterated with 22 % of Water. Ditto.
608—	" .....	Milk.....	Adulterated with 12 % of Water. Ditto.
609—	" .....	Milk.....	Adulterated with 20 % of Water. Ditto.
610—	" .....	Milk.....	Adulterated with 18 % of Water. Ditto.
611—	Sept. 12th...	Gin .....	Genuine.
612—	" .....	Gin .....	Genuine.
613—	" .....	Gin .....	Genuine.
614—	" .....	Gin .....	Adulterated with Water, 28° under proof.
615—	" .....	Gin .....	Genuine.
616—	" .....	Gin .....	Genuine.

No.	DATE.—1878.	ARTICLES.	REMARKS.
617—	Oct. 3rd	Butter .....	Genuine.
618—	"	Butter .....	Genuine.
619—	Oct. 8th	Milk.....	Adulterated with 8·5 % of Water.
620—	"	Butter .....	Genuine.
621—	"	Butter .....	Genuine.
622—	"	Butter .....	Genuine.
623—	"	Butter .....	Genuine.
624—	"	Butter .....	Genuine.
625—	"	Butter .....	Genuine.
626—	"	Butter .....	Genuine.
627—	"	Butter .....	Genuine.
628—	"	Butter .....	Genuine.
629—	"	Butter .....	Genuine.
630—	Dec. 2nd	Sherry .....	Genuine.
631—	"	Sherry .....	Genuine.
632—	"	Sherry .....	Genuine.
633—	"	Sherry .....	Genuine.
634—	"	Sherry .....	Genuine.
635—	"	Sherry .....	Genuine.
636—	Dec. 6th	Milk.....	Adulterated with 22 % of Water. Fined 10/-
637—	"	Milk.....	Genuine. [and costs.
638—	"	Milk.....	Adulterated with 13 % of Water. Fined
639—	Dec. 14th	Coffee .....	Genuine. [2/6 and costs.
640—	"	Coffee .....	Genuine.
641—	"	Coffee .....	Genuine.
642—	"	Coffee .....	Genuine.
643—	"	Coffee .....	Genuine.
644—	"	Coffee .....	Genuine.
645—	Dec. 19th	Mustard .....	Genuine.
646—	"	Pepper.....	Genuine.
647—	"	Mustard .....	Genuine.
648—	"	Pepper.....	Genuine.
649—	"	Mustard .....	Genuine.
650—	"	Pepper.....	Genuine.
651—	"	Mustard .....	Genuine.
652—	"	Pepper.....	Genuine.
653—	Dec. 19th	Mustard .....	Adulterated with 25 % of Wheat Flour and Turmeric.
654—	"	Pepper.....	Genuine.
655—	"	Mustard .....	Genuine.
656—	"	Pepper.....	Genuine.
657—	"	Mustard .....	Genuine.
658—	"	Pepper.....	Genuine.
659—	"	Mustard .....	Genuine.
660—	"	Pepper.....	Genuine.
661—	"	Mustard .....	Genuine.
662—	"	Pepper.....	Genuine.
663—	"	Mustard .....	Genuine.
664—	"	Pepper.....	Genuine.

The articles examined comprised—

42	Samples of Milk.
17	" Coffee.
16	" Mustard.
15	" Ale.
14	" Pepper.
13	" Tea.
12	" Gin.
12	" Butter.
11	" Flour.
6	" Sherry.
<hr/>	
Total	158
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Out of the 158 samples examined, 34, or upwards of 21 per cent., were adulterated.

Of the 42 samples of Milk, so many as 24, or 57 per cent, had been diluted with water and in one instance a portion of the cream had also been abstracted.

Three of the 17 samples of Coffee were more or less adulterated with Chicory, while one of the 16 samples of Mustard contained 25 per cent. of Wheat Flour and Turmeric.

In two of the samples of Ale analysed there was an excessive quantity of Salt, and in two of the Peppers I found a larger quantity of mineral matter than is naturally present in genuine samples of this condiment.

Two of the samples of Gin were below the allowed standard of strength. The samples of Tea, Butter, Flour, and Sherry were all genuine.

I remain,

Mr. Chairman and Gentlemen,

Your obedient Servant,

ALFRED HILL. M.D., F.I.C.,  
*Borough Analyst.*